

BY-LAW NUMBER 2005/48

BY-LAW NO. 2005/48 is a by-law of the County of Wetaskiwin No. 10 in the Province of Alberta, to authorize the adoption of an Area Structure Plan for the purpose of providing a framework for subsequent subdivision and development of the area known as Doug & Bev Schneider in NW 19-46-27-W4M in accordance with Section 633 of the Municipal Government Act, Chapter M-26.1, Revised Statutes of Alberta 2000, and amendments thereto.

WHEREAS: at the requirements of County Council, an Area Structure Plan has been prepared for Doug & Bev Schneider in NW 19-46-27-W4M.

AND WHEREAS: the proposed Area Structure Plan has been widely circulated and discussed within the County pursuant to Section 230, 606(1), and 633(1) of the Municipal Government Act, 2000, Chapter M-26.1, and amendments thereto.

NOW THEREFORE: The Council of the County of Wetaskiwin No. 10, hereby enacts that the document attached to this By-law as "Appendix A", together with accompanying maps, be adopted as the "Doug & Bev Schneider" Area Structure Plan in the NW 19-46-27-W4M, subject to the following conditions and amendments:

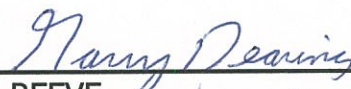
1. That the proposed design include a road widening;
2. That a 6 metre Public Utility Lot be added between two lots providing access directly from the end of the cul-de-sac to the ravine for the purpose of a drainage swale and fire fighting access;
3. That the field approach off of the Highway be removed;
4. That the lot design be done to provide seven instead of eight lots and to incorporate the two abandoned wells along the sides of rather than the center of a lot;
5. That 30 metre road widening be incorporated into the design;
6. That lot boundaries be 6 metres back from the edge of the ravine;
7. That all reserves be deferred to the remainder of the quarter and taken at a later time.
8. That the applicant satisfy Section 23 of the water act, providing a well pump test verifying the adequacy of water supply for the proposed lots.
9. That Twp Road 464 be built to County Standards by the developer.

This by-law comes into effect once the above amendments are received.

READ: A First time this 11 day of August, A.D., 2005.

READ: A Second time this 11 day of August, A.D., 2005.

READ: A Third time and finally passed this 11 day of August, A.D., 2005.



REEVE



SECRETARY-TREASURER

Area Structure Plan

NW 19-46-27-4

Submitted by Doug & Bev Schneider, landowners

Introduction

The subject property is located east of secondary road 780 and adjoins the Wicked Witch Golf Course on the South East corner. The quarter section has a treed ravine that causes a natural division that requires two approaches for access. The building site on the south portion of the quarter section amounting to 3.58 acres has been subdivided. The north portion of the quarter section, which is the subject of this area structure plan, amounts to 15.97 ha.(38.5 ac.). A copy of the current title is attached

Map 1 is a Location Map showing subject lands.

Municipal Jurisdiction

The subject land is under the jurisdiction of the County of Wetaskiwin. The land directly west of secondary road 780 is part of the Four Nations Reserve.

Physical Features

The subject land is relatively flat and is comprised of 20 acres that is an abandoned gravel pit. The Assessment rating for the entire quarter section provided by the County of Wetaskiwin is as follows:

68.00 acres – 49.4%

42.00 acres – 44.4%

20.00 acres - 9.0% (abandoned gravel pit) – subject land

22.42 acres – 5.5% (bush)

The ravine is deep and wide and is wet during rainy times and crosses the land diagonally creating a natural subdivision. There is no access across this ravine and two approaches off of secondary road 780 are currently necessary for access.

Present Land Uses

The land is currently leased on a yearly basis for grazing, however, the poor soil quality on the subject land (rated 37) does not supply sufficient pasture to sustain cattle for a season.

Constraints and Opportunities to Subdivision

The County of Wetaskiwin's standards for the preparation of area structure plans require the developer to identify any conflicting land uses.

Confined feeding operations: There are no CFOs within two kilometers of the subject land.

Airfields: There are no airports anywhere near the subject land; the closest airport is Wetaskiwin, 35 km east.

Sour gas facilities: Alberta Energy and Utilities Board has confirmed there are no sour gas wells in the requested area: NW 19-46-27-W4

There are two existing gas pipelines that will require compliance as to set backs when several of the lots are developed.

There is an existing efficient road system in place.

The proposed subdivision is in close proximity to Pigeon Lake and local golf courses.

There is a natural area and ravine that is accessible to future residents.

Increased values will substantially increase tax revenues.

Boundaries of Adjacent Municipalities and Referral

The subject land is not adjacent to any other municipality and would not be included in the Intermunicipal Development Plan between the County of Wetaskiwin and the Summer Villages of Crystal Springs, Norris Beach, Poplar Bay and Grandview.

The subject land is however, adjacent to the Four Nations Reserve and secondary highway 780.

Correspondence with Alberta Transportation indicates that the department is not in favour of multi-lot subdivisions that utilize direct highway access. As per the **Tentative Plan for Proposed Subdivision**, there would not be direct highway access from the subdivision. Access would be via a keyhole turnaround onto an undeveloped government road allowance. The current direct access to SR 780 will be eliminated under the proposed plan.

Road Standards

Roads will be built to rural standards with gravel surfaces. Approaches and culverts will also conform to rural standards and ditches will remove storm water. Post development flow is not anticipated to exceed pre-development flows.

- Township Road 464 to be build to County Standards by the developer
- 30 metre road widening be incorporated into the design

Water Supply

The Water Act requires that, if a subdivision will result in there being more than six lots on a quarter section, and the resulting lots will depend on groundwater, the subdivision must not be approved until it is proved that there is sufficient groundwater to supply the new lots without depleting the supply to existing uses in the area (Water Act, section 23, and Water Regulations, AR 204/98, section 9).

A report has been prepared by AMEC Earth & Environmental to demonstrate that there is sufficient water for the lots proposed under this ASP. Copy attached.

- The developer will satisfy Section 23 of the water act, providing a well pump test verifying the adequacy of water supply for the proposed lots.

Fire Protection

Fire service if ever required comes from Ma-Me-O Beach and subsequently from the new emergency services building under construction west of the Village on Highway 13. Because the subject lands are cleared, any risk of fire damages to buildings is minimal.

- A 6 metre Public Utility Lot be added between two lots providing access directly from the end of the cul-de-sac to the ravine for the purpose of a drainage swale and fire fighting access.

Sewer Service

Lots proposed will be large enough (over 1,850 m²) to comply with the Alberta Private Sewage Systems Standard of Practice for on-site sewage disposal.

Municipal Reserves

Municipal Reserve exceeds allocation as per the Municipal Government Act.

Total land in proposed lots	15.97 ha
10% as per MGA	1.6 ha
Municipal Reserve as per plan	1.77 ha

- All reserves to be deferred to the remainder of the quarter and taken at a later time.

Tentative Plan of Subdivision

Tentative Plan prepared by Olsen Surveys Ltd., Lacombe, Alberta is included. The tentative plan provides for 8 parcels with a key hole access road. The proposed subdivision is surrounded by Municipal Reserve on all boundaries except facing north which is Government Road Allowance.

- The lot design to be done to provide seven instead of eight lots and to incorporate the two abandoned wells along the sides of rather than the center of a lot.
- A 6 metre Public Utility Lot to be added between two lots providing access directly from the end of of the cul-de-sac to the ravine for the purpose of a drainage swale and fire fighting access.
- Lot boundaries to be 6 metres back from the edge of the ravine.
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Zoning

At present the entire property is zoned Agricultural under the County of Wetaskiwin's Bylaw 95/54.

The proposed subdivision will require Country Residential zoning

Public Input Plan

Public hearing process as defined under the Municipal Government Act.

Proposed

**AREA STRUCTURE
PLAN**

NW 19-46-27-4

Submitted by:

Doug and Bev Schneider, Landowners

Replaced Sept 14, 2005

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- **E-mail re: Sour gas wells**
- **AMEC Earth & Environment Preliminary Groundwater Potential Study**

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Area Structure Plan

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Public Input Plan

Public hearing process as defined under the Municipal Government Act.



09 December 2004
CW1901.101

Mrs. Beverly Schneider
256 Grandview RR1
Westerose, Alberta
T0C 2V0

Fax # (780) 586-2037

Dear Mrs. Schneider:

**Re: Preliminary Groundwater Potential Study, Residential Subdivision
NW ¼-19-46-27 W4M, East of Wetaskiwin, Alberta**

1.0 INTRODUCTION

AMEC Earth & Environmental, a division of AMEC Americas Limited, (AMEC) is pleased to present the results of a groundwater potential study for NW¼-19-46-27 W4M, the site of a proposed rural-residential subdivision (the Site). AMEC was retained by Mrs. Beverly Schneider (the Client) to complete the study. The Site location is shown in Figure 1.

Hydrogeological information for the Site and surroundings was assembled and reviewed to complete this study. Information sources included the Alberta Environment (AENV) water well record database and relevant published geology and hydrogeology maps and reports.

2.0 INVESTIGATION GUIDELINES

This study was completed in general accordance with the 1998 AENV publication *Draft Environmental Guidelines for the Review of Subdivisions in Alberta* and in particular with Chapter 2 - *Guidelines for the Evaluation of Groundwater Supply For Unserved Residential Subdivisions*. These guidelines are recommended for use where the water supply will be provided by privately owned domestic water wells. As stated in the guidelines, the principle of sustainable development should guide the utilization of groundwater resources. Specifically, the guidelines state that "groundwater resources vary across the province and even local differences can be extreme. The threat of groundwater shortages and contamination grows with the density of wells and their collective demand on the local groundwater resources." In addition, consideration was given to the *Groundwater Evaluation Guideline* (AENV, 2003).

Relevant to the proposed development at NW¼ 19-46-27 W4M, the *Water Act* specifies that the diversion of 1250 m³/year per household (household use as defined in the *Water Act*) should not interfere with any household users, licensees or traditional agriculture users who exist when the subdivision is approved. Therefore, the objective of this study is to render a professional opinion, based on a review of readily available information, whether aquifers underlying the development site should be able to sustain production to provide water for 8 new residential lots, with consideration for the one existing residence within the same quarter section. Therefore diversion of 11,250 m³/year (approximately 0.36 L/s or 4.7 Imperial gallons per minute [lgpm]) of water from these aquifers must be sustainable. AMEC's opinion is based on the assumption that

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users anticipated to reside at the site will use 1250 m³/year obtained on a reasonably continuous basis.

3.0 GEOLOGY

The surficial geology in the area consists mainly of glacial till, lacustrine clays, as well as some sands and gravels deposited in preglacial channels (Le Breton, 1971). Geological data from water well completion records show that these deposits generally range between 10 and 30 m thick (AENV Water Well Database). The underlying bedrock consists of bentonitic sandstone and siltstone of the Paskapoo Formation (Le Breton, 1971). Well completion records also show that individual sandstone, siltstone and shale units within the bedrock are interbedded in places, and variable in thickness and extent. The location map and trace of the hydrogeological cross-section are shown on Figure 1, while Figure 2 shows the hydrogeological cross-section based on water well records from the area.

4.0 HYDROGEOLOGY

4.1 Water Well Database

There are no well records in the AENV database for the quarter section in which the site is located, NW¼ 19-46-27 W4M. However, from discussion with the Client we are aware that there is an existing house with a well in the southwest corner of the quarter section.

The AENV database lists 101 well records with in the section the site is located and the adjoining sections (Sections 17, 18, 19, 20, 29 and 30 of 46-27-W4M, and sections 13, 24 and 25 of 46-28-W4M). This study area exceeds the 1.6 km (1 mile) study area stipulated in the *Groundwater Evaluation Guideline* (AENV, 2003). Some existing water wells are not in the database and it is possible that only a subset of the records listed in the database represent water wells currently in operation. A summary of all well records from the search area is presented in tabular format in Appendix A. Copies of selected driller's reports and water chemistry analysis results are included in Appendix B.

4.2 Aquifer Depth and Well Yield

The exploitable water-bearing units in the study area are sand and gravel layers deposited in preglacial channels, and sandstone units within the Paskapoo Formation. The Site and surrounding area are mapped by Le Breton (1971) as having probable well yields (estimated from quantitative information) of 0.4 to 1.9 L/s (5 to 25 lgpm) per single well. Of the 80 driller's logs from the study area that reported test pumping rates, most presented rates within the range of 0.4 to 1.1 L/s (5 to 15 lgpm), with 0.8 L/s (10 lgpm) being the most commonly reported. Three were less than 0.4 L/s, and 13 test yields were at 1.4 L/s (18 lgpm) or greater. It has to be noted, however, that pump tests reported by drillers are usually of short duration (1 to 2 hours) and therefore provide only a crude indication of aquifer performance. The test yields are often limited by capabilities of the equipment that is available to the drillers and by the objectives of the drilling programs as well.

The closest well to the site is Well 0132822, located in 04-30-46-27-W4M. The well is completed to a depth of 73 m, is cased to 24 m btoc (80 ft) to top of bedrock, and the static water level in the well is recorded at 27.5 m btoc (90 ft). The well was tested at a pumping rate of 3.0 L/s (40 lgpm). The observed drawdown was 12 m (40 ft), which is to within 0.6 m (2 ft) of the pump intake. Although this well was tested a rate significantly higher than the rate required to supply the proposed subdivision, the well effectively drew down to the pump intake during the test. It can be concluded that the aquifer in the vicinity of Well 132822 cannot sustain a pumping rate of 3.0 L/s (40 lgpm), but no information on the aquifers response to lower pumping rates can be inferred.

The next closest well, Well 0075154, located in NE¼ 24-46-28-W4M was tested at 0.8 L/s (10 lgpm), but also drew down to the pump intake during testing and therefore provides little useful information.

More rigorous pump test data are available for wells completed in SE¼ and SW¼ of 13-46-27-W4M, however, these wells are a distance of over 2 km from the proposed subdivision. Well 0286758 (SE¼ of 13-46-27-W4M) was pumped at 0.9 L/s (12 lgal/min). The observed drawdown was 2.4 m (8 ft), which was reached within 4 minutes and the well recovered within 1 minute. Well 0213380 (SW¼ of 13-46-27-W4M) was pumped at 0.6 L/s (8 lgal/min) with an observed drawdown of 1.5 m (5 ft). Both these pump tests indicate that a withdrawal of 0.36 L/s (4.7 lgpm) would likely be sustainable without affecting the existing users in the area local to SE¼ and SW¼ of 13-46-27-W4M, however as mention previously these wells are more than 2 km from the proposed subdivision.

4.3 Well Completion Depth and Static Water Level

With the exception of four deep industrial exploratory holes, the wells in the study area were completed at depths up to 90 m, the majority of which were within the range of 30 m to 50 m deep, and were completed in sandstone units in bedrock. Recorded static water levels in the wells were all below ground level at the time of measurement. Static water levels ranged from approximately 2 m to 35 m below top of casing (btoc), equal to an approximate elevation range of 835 to 870 masl. The level of nearby Pigeon Lake is in the middle of this range at approximately 850 masl, so the overall relationship between the lake and groundwater flow in the area is unclear.

4.4 Groundwater Quality

In the region, total dissolved solid (TDS) concentrations were mapped at between 500 and 1000 mg/L (Le Breton, 1971). Nine available groundwater chemical analyses from Sections surrounding the proposed development site reveal that local groundwater has TDS values ranging from 578 to 1233 mg/L. These water chemistry analyses are included with corresponding drilling reports in Appendix B.

Groundwater chemistry in the area surrounding the Site is generally mapped as being of sodium bicarbonate type (Le Breton, 1971). Chemistry reports provided with driller's logs confirm this, and indicate that sulphate is also present in relatively high concentrations (up to 300 mg/L).

Of the eight wells in the search area with chemistry data available, there were several with parameters at concentrations that exceeded aesthetic objectives outlined in the *Guidelines for*

Canadian Drinking Water Quality (GCDWQ; Health Canada, 2003). They can be summarized as follows:

- TDS concentrations exceeded the GCDWQ aesthetic objective (500 mg/L) in all eight wells, with the highest being 1233 mg/L.
- The iron concentration in one of the wells measured 0.38 mg/L in one analysis, and 0.47 mg/L in a second, exceeding the GCDWQ's aesthetic objective of 0.3 mg/L.
- Values for pH ranged from 8.6 to 8.9 in three wells, exceeding the GCDWQ's aesthetic objective range of 6.5 to 8.5.
- Sodium concentrations in seven of the eight wells were in excess of the aesthetic objective of 200 mg/L, and may be a concern for individuals on sodium-reduced diets. The highest of these was 460 mg/L.
- Hardness values are generally low and are below 80 mg/L in seven of eight wells. Hardness is not subject to a federal guideline, however, values between 80 and 100 mg/L are considered to be within an ideal range, while concentrations between 200 mg/L and 500 mg/L are said to be poor (very hard), but tolerated (Health Canada, 2003). Soft water was reported in several of the other non-sampled wells throughout the area as well.

5.0 PREVIOUS LAND USE

The client has indicated to AMEC that the area of the proposed subdivision was previously a gravel pit. No information other than this personal communication was provided to or referenced by AMEC. Wells in the area are generally completed in bedrock so the existence of an abandoned or reclaimed gravel pit on the site is not expected to affect the availability of a groundwater supply. However, if the eight proposed lots are to be serviced by septic systems there may be a concern regarding communication between the septic system and the groundwater supply, if the overburden is primarily gravel. When the future groundwater supply wells and septic systems are installed adequate protection of the water supply from surface and septic contamination should be confirmed.

Consideration should also be given to the two oil and gas pipeline right of ways on the Site. The Client should determine the required setbacks of domestic wells from the right of ways to confirm that a domestic water supply well can be completed on each lot. The approximate locations of the right of ways are shown on the site plan in Figure 1.

6.0 DISCUSSION AND CONCLUSIONS

There is sufficient information available from published reports and from the AENV Water Well Database to assess the groundwater supply potential at the regional scale. However, the site-specific information, in terms of water supply potential, is relatively scarce, as all the pump test information publicly available within 1.6 km (1 mile) of the study area are for tests where the water level was drawn down to the pump intake or drawdown information was not provided.

According to hydrogeological maps of the region long-term well yields range between 0.4 and 1.9 L/s (5 to 25 lpm). Therefore, it is likely local aquifers can provide the desired supply of 0.36 L/s (4.7 lpm) for nine residential lots, including the 8 proposed lots at the Site as well as

existing house on quarter section, without creating adverse effects on regional groundwater levels and water quality. However no reliable pump test data in the vicinity of the proposed subdivision is publicly available in order to confirm the regional information or assess the local long-term groundwater supply potential.

Groundwater quality in the study area, as determined from regional mapping and analyses of samples from nearby wells, is variable. The GCDWQ are not met for some aesthetic-related parameters (including TDS, iron, pH, sodium and hardness) in a portion of wells that have been sampled and analyzed for a limited number of parameters. These are all merely aesthetic concerns, and do not represent a major obstacle to the use of local groundwater for drinking water supply. However, some level of water treatment may be desirable, depending on the actual groundwater quality in any given well.

As the Site may have previously been a gravel pit, it is likely the bedrock in the area is overlain by highly permeable gravel. When the wells are installed the surface geology should be logged to confirm that the water supply is adequately protected from surface contamination. The Client should determine the required setbacks of domestic wells from the two pipeline right of ways on the Site to confirm that a domestic water supply well can be completed on each lot.

7.0 RECOMMENDATIONS

Based on the review of available regional groundwater information, it is AMEC's opinion that it is likely local aquifers can provide the desired supply of 0.36 L/s (4.7 lgpm) for nine residential lots, including the 8 proposed lots at the Site as well as existing house on quarter section, without creating adverse effects on regional groundwater levels and water quality.

However, there is no available pump test data for the site or for the quarter section in which the site is located. Also, no reliable pump test data within 1.6 km (1 mile) of the proposed subdivision is publicly available in order to confirm the regional information or assess the local long-term groundwater supply potential.

To be fully confident local aquifers can provide the desired supply of 0.36 L/s (4.7 lgpm) without adversely impacting existing users a Phase 2 Groundwater Supply Study including a pump test within the proposed sub-division would be required. A Phase 2 Groundwater Supply Study would likely include:

- Installing a groundwater well within the limits of the proposed sub-division. This well could be located to serve as a water supply for one of the lots and some of the costs of the well installation could be recovered when the lot is sold.
- Carrying out an aquifer pumping test. For the test, the pumping well will need to be pumped at a rate of approximately 0.4 L/s (5 lgpm) to emulate the demand for the 8 proposed lots at the site as well as the existing house in the quarter section.
- According to *Groundwater Evaluation Guideline* (AENV, 2003) requirements the well will need to be pumped for 24-hours and the recovery monitored for an additional 24-hours (or until 90% recovery) and no observation wells are required.

- Sampling and analyzing water from the pumping and observation wells (if available) during the test.
- Interpretation and analysis of the collected test data to further evaluate local aquifer conditions and probable long-term well yields for the site.
- A field verified survey a groundwater users with 1.6 km (1 mile) of the Site.

AMEC can provide a cost estimate for these additional investigations upon request.

7.0 CLOSURE

Should you have any questions regarding this letter or any other aspect of this project please do not hesitate to contact David Parsons (403 207-7694) or Bernadette Lyons David (403 569-6514).

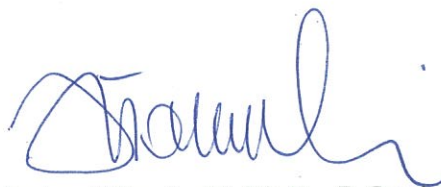
This report has been prepared for the exclusive use of Beverly Schneider and authorized users for specific application to this project Site. The groundwater potential study was conducted in accordance with the proposed work scope prepared for this Site and amendments, and generally accepted assessment practices. No other warranty, expressed or implied, is made. The general limitations of this report are specified in Appendix C.

Yours truly,

AMEC Earth & Environmental



David Parsons, M.Sc.
Junior Hydrogeologist



Andrzej Slawinski, Ph.D., P.Geol.
Principal Hydrogeologist



Bernadette Lyons David, M.Sc.E., P.Eng.
Geological and Water Resources Engineer

APEGGA Permit No. P 4546

8.0 REFERENCES

Alberta Environment, Water Well Database (including Driller's Reports and Chemical Analysis Reports).

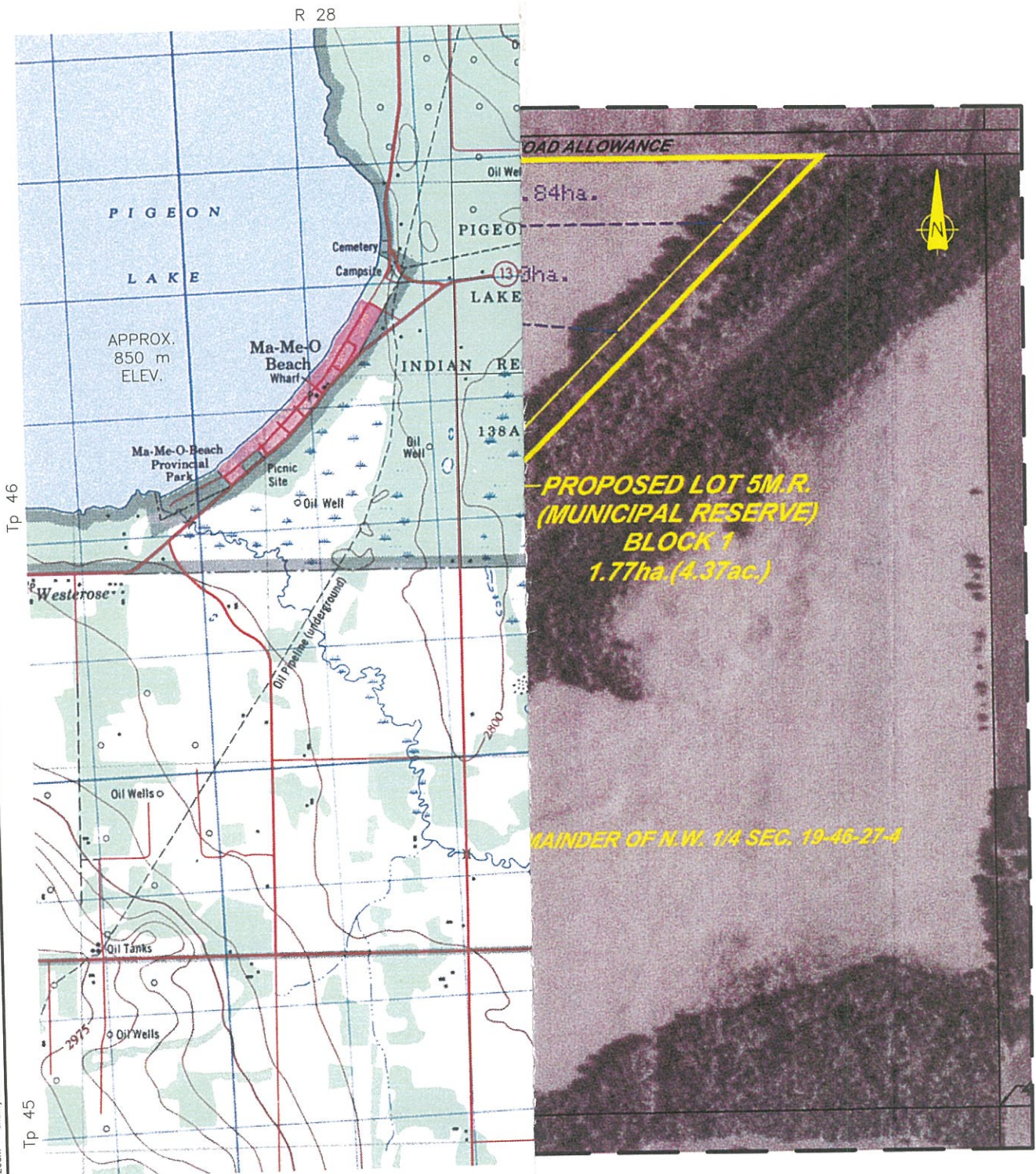
Alberta Environment, 1998. *Environmental Guidelines for the Review of Subdivisions in Alberta*.

Alberta Environment, 2003. *Groundwater Evaluation Guideline* (Information required when submitting an application under the *Water Act*). February 2003.

Health Canada, 2003. *Summary of Guidelines for Canadian Drinking Water Quality*. April 2003.

Le Breton, E.G. 1971. *Hydrogeology of the Red Deer Area, Alberta*. Alberta Research Council, Report 71-1. 14p. map.

Province of Alberta, 1996. *Water Act*. Statutes of Alberta, Chapter W-3.5 with amendments.



LOCATION MAP AND SITE PLAN

SCALE 1:5

SCALES

1:50 000 0 500 1000 m

1:5000 0 50 100 m

PROJECT:

RURAL RESIDENTIAL SUBDIVISION
GROUNDWATER POTENTIAL STUDY

TITLE:

LOCATION MAP AND SITE PLAN

DATE:

DECEMBER 2004

JOB No.:

CW1901

CAD FILE:

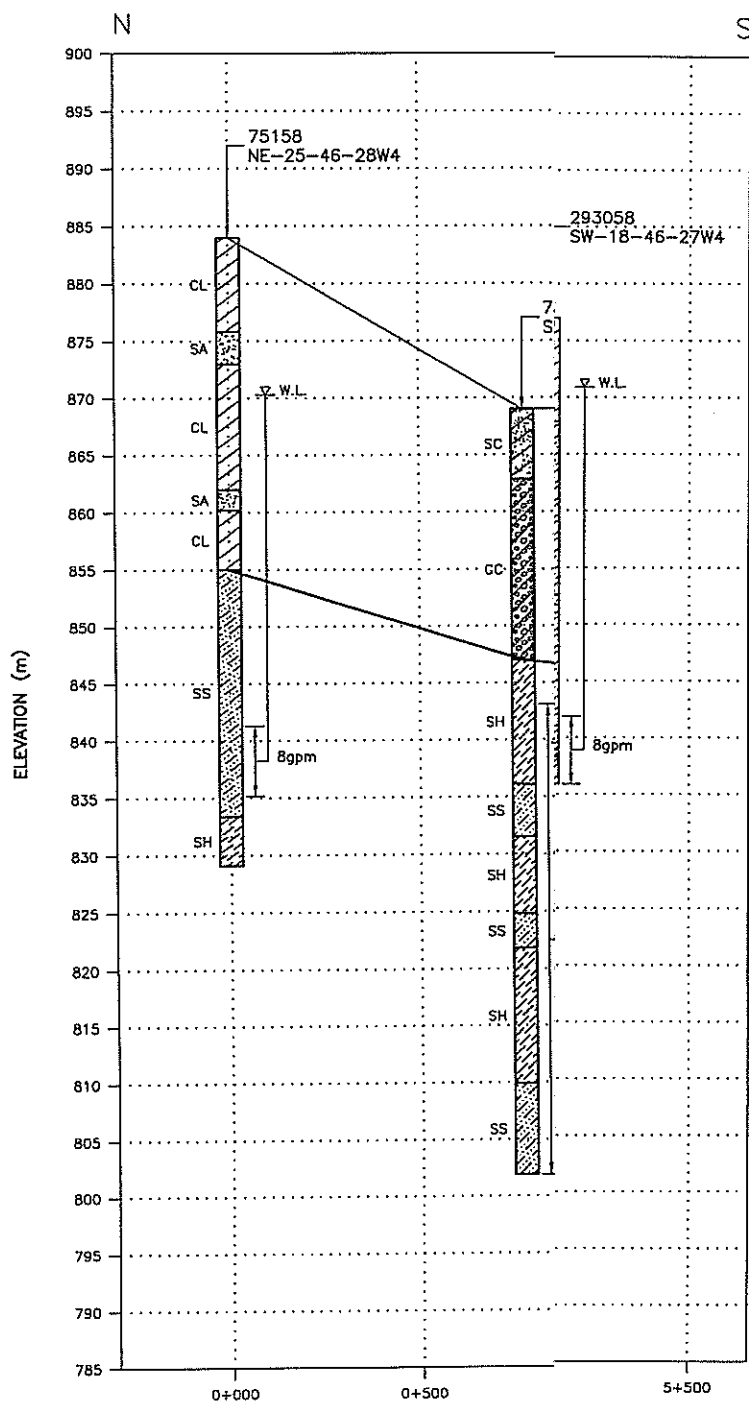
1901-B00.dwg

FIGURE No.:

FIGURE 1

REV.

A



LEGEND:

- INTERPRETED GROUND SURFACE
- INTERPRETED BEDROCK SURFACE
- CLAY (CL)
- SAND (SA)
- SANDY TILL (SC)
- CLAY TILL (GC)
- SANDSTONE (SS)
- SHALE (SH)

25gpm WATER REMOVAL DURING DRILL'S PRODUCTION TESTING (IMPERIAL GALLONS PER MINUTE).

W.L. STATIC WATER LEVEL AT THE TIME OF COMPLETION.

SCREENED INTERVAL.

NOTES:

1. WELLS LABELED BY WELL I.D. ON DRILL LOGS AND SECTION LOCATION.
2. WELL LOCATIONS APPROXIMATED WITHIN THE QUARTER SECTION. SURFACE ELEVATIONS ESTIMATED FROM 1:50,000 CONTOUR MAP.
3. VERTICAL SCALE HAS 30 EXAGGERATION.
4. DATA CONCERNING THE VARIOUS STRATA HAVE BEEN OBTAINED AT THE BOREHOLE LOCATIONS ONLY. THE SOIL STRATIGRAPHY BETWEEN BOREHOLES HAS BEEN INFERRED FROM GEOLOGICAL EVIDENCE AND SO MAY VARY FROM THAT SHOWN.

HL. Scale: 0 750 m

PROJECT: RURAL RESIDENTIAL SUBDIVISION GROUNDWATER POTENTIAL STUDY				
TITLE: HYDROGEOLOGICAL CROSS SECTION A				
DATE: DECEMBER 2004	JOB No.: CW1901	CAD FILE: 1901-B00.dwg	FIGURE No.: FIGURE 2	REV. A

APPENDIX A

Water Well Database - Summary Table



Suite 387 300 - 8120 Beddington Boulevard NW Calgary, Alberta, Canada T3K 2A8, www.datterra.ab.ca

DaTerra Projects Ltd. - Water Well Summary Report

Client: AMEC Earth & Environmental

Name: David Parsons

Client Project ID: CW1901

Search Definition: SECTION 19, TOWNSHIP 046, RANGE 27, W4M

Location					Summary Data											
Well ID	SP or Quarter	Section	Township	Range	Meridian	Proposed Use	Depth (ft)	Log	Gamma Log	Chemistry Records	Lithology Records	Pump Test Records	Completion Date	Static Level (ft)	Test Yield (lgpm)	Owner
285575	SW	24	46	28	4	Domestic	140	N	N		Y	Y	9/3/1996	91	25	CAMERON BUFFALO SCHOOL(SAMSON
238054	SW	24	46	28	4	Domestic	200	N	N		Y	Y	1/27/1994	47	18	MOONIAS, DELIA (IR)
168969	SW	24	46	28	4	Domestic	180	N	N		Y	Y	8/26/1992	50	15	NEEPOSE, GLENDA/SAMSON BAND
75146	SW	24	46	28	4	Domestic	60	N	N	Y						LIGHTNING, PHILLIP
75145	SW	24	46	28	4	Domestic	200	N	N		Y	Y	11/1/1978	37	12	WILLIAMS, PERCY
75144	SW	24	46	28	4	Domestic	116	N	N		Y	Y	5/10/1979	20	10	WALKER, J.
75143	SW	24	46	28	4	Domestic & Stock	135	N	N		Y	Y	10/21/1986	45	10	YELLOWBIRD, ALBERT
75142	SW	24	46	28	4	Domestic	260	N	N		Y	Y	5/7/1987	45	10	LIGHTNING, PHILIP
168963	SE	24	46	28	4	Domestic	140	N	N		Y	Y	7/13/1992	40	25	SAMSON I.R.
168953	SE	24	46	28	4	Unknown	140	N	N		Y	Y	8/27/1992	40	12	LITTLECHILD, GARY/ERMINSKIN IR
151921	SE	24	46	28	4	Domestic	200	N	N		Y	Y	11/1/1989	50	100	BULL, LOUIS
75141	SE	24	46	28	4	Domestic	280	N	N		Y	Y	1/20/1988	70	30	ROWAN, GARY
75140	SE	24	46	28	4	Domestic	300	N	N		Y	Y	6/12/1987	80	10	SADDLEBACK, DALE
75139	SE	24	46	28	4	Domestic	250	N	N		Y	Y	5/1/1987	50	10	SADDLEBACK, IDA
75138	SE	24	46	28	4	Domestic	140	N	N		Y	Y	8/1/1979	24	12	RABBIT, BERT
75137	SE	24	46	28	4	Domestic	150	N	N		Y	Y	6/1/1978	20	12	GREEN, SAM
75136	SE	24	46	28	4	Domestic	115	N	N		Y	Y	9/22/1962	15	108	LIGHTNING, JOE
75135	SE	24	46	28	4	Domestic	151	N	N		Y	Y	10/20/1962	65	8	BOYSES, JOE
75150	NW	24	46	28	4	Domestic	260	N	N		Y	Y	1/26/1988	50	30	ROWAN, CASEY
75149	NW	24	46	28	4	Dewatering	260	N	N		Y	Y	12/18/1987	31	10	NEPOOSE, GLENN
75148	NW	24	46	28	4	Domestic	220	N	N		Y	Y	2/4/1986	60	10	BUFFALO, STELLA
75147	NW	24	46	28	4	Domestic	160	N	N		Y	Y	2/1/1979	28	18	BUFFALO, STELLA
286764	NE	24	46	28	4	Domestic	130	N	N		Y	Y	10/21/1996	35	20	ROAN, ELIZABETH/SAMSON
75154	NE	24	46	28	4	Domestic	220	N	N		Y	Y	2/9/1986	80	10	ROWAN, MARY
75153	NE	24	46	28	4	Domestic	160	N	N		Y	Y	10/1/1978	47	12	NEPOOSE, CECIL
75152	NE	24	46	28	4	Domestic	180	N	N		Y	Y	11/11/1980	94	10	ROAN, FRANCIS
75151	NE	24	46	28	4	Domestic	240	N	N		Y	Y	7/29/1983	87	18	BULL, LOUIS
75156	SE	25	46	28	4	Domestic	220	N	N		Y	Y	12/13/1985	96	8	GREEN, FRANCIS
75155	SE	25	46	28	4	Domestic	220	N	N		Y	Y	12/17/1985	103	8	SIMON, ALLEN
241957	NE	25	46	28	4	Domestic	160	N	N		Y	Y	11/2/1987	30	10	LOUIS BULL BAND
75159	NE	25	46	28	4	Domestic	80	N	N		Y	Y	7/6/1963	33	6	DEPT. OF INDIAN AFFAIRS
75158	NE	25	46	28	4	Domestic	180	N	N		Y	Y	3/26/1983	45	8	BROWN, ANTHONY
75157	13	25	46	28	4	Domestic	130	N	N		Y	Y	9/18/1979	48	15	BROWN, STUNRT
153265	SW	13	46	28	4	Domestic	160	N	N		Y	Y	9/14/1990	70	10	ROAN, HARRY
75219	SW	13	46	28	4	Domestic	240	N	N		Y	Y	12/8/1986	37	8	ROANE, VIOLET
75218	SW	13	46	28	4	Domestic	140	N	N		Y	Y	10/1/1978	57	47	YELLOWBIRD, MARY
75217	SW	13	46	28	4	Domestic	84	N	N		Y	Y	1/28/1984	65	6	ZADKO, LEDUE
286760	SE	13	46	28	4	Domestic	135	N	N		Y	Y	9/25/1996	28.5	12	JOHNSON, LEAVERT
286759	SE	13	46	28	4	Domestic	135	N	N		Y	Y	9/26/1996	22.9	12	LOWEN, LADDIE
286758	SE	13	46	28	4	Domestic	135	N	N		Y	Y	9/23/1996	22.9	12	MONTGOMERY, IRENE
213380	SE	13	46	28	4	Domestic	120	N	N		Y	Y	6/1/1992	20	8	ALL TYPE PUMP AND WATER WELL
153264	SE	13	46	28	4	Domestic	120	N	N		Y	Y	9/17/1990	20	10	DANYLUK, JIM
75214	SE	13	46	28	4	Domestic	125	N	N		Y	Y	3/3/1987	20	10	PAYFETT, HAROLD
75213	SE	13	46	28	4	Domestic	190	N	N		Y	Y	10/19/1977	44	7	GREEN, STANLEY
75212	SE	13	46	28	4	Domestic	180	N	N		Y	Y	10/20/1977	36	8	SOOSAY, BERTHA
288822	NW	13	46	28	4	Domestic	130	N	N		Y	Y	2/27/1998	21.5	8.5	COWARD, GARY
151920	NW	13	46	28	4	Domestic	140	N	N		Y	Y	12/19/1989	0	12	MILLS, JIM
75223	NW	13	46	28	4	Domestic	150	N	N		Y	Y	6/22/1989	35	10	PETERS, H.
75222	NW	13	46	28	4	Domestic	140	N	N		Y	Y	6/28/1985	32.8	12	BALLHORN, BILL
75221	NW	13	46	28	4	Domestic	153	N	N		Y	Y	12/3/1982	50	10	JOHNSON, ROBERT
75220	NW	13	46	28	4	Domestic	100	N	N		Y	Y	10/13/1977	21	8.5	DEBROUN, JERRY
287590	NE	13	46	28	4	Domestic	130	N	N		Y	Y	6/2/1997	11.4	25	JOHNSON, BERNICE (SAMSON MAINT
75225	NE	13	46	28	4	Domestic	200	N	N							JOHNSON, JANET
75224	NE	13	46	28	4	Domestic	160	N	N		Y	Y	8/5/1982	7	10	JOHNSON, JANET

PURPOSE OF REPORT

The purpose of this report is to gather data which will be used as the basis for further assessment, if necessary. As supporting documentation, this report must be included in its entirety as an appendix to any document which refers to this assessment or discusses the data contained in this report. The data contained in this report applies only to the legal land location(s) and purpose specified on the cover of this report.

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Appendix B

Water Well Drilling Reports Water Well Chemistry Analyses

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.:	0132774
Map Verified:	Not Verified
Date Report Received:	1986/08/05
Measurements:	Imperial

1. Contractor & Well Owner Information			2. Well Location		
Company Name: UNKNOWN DRILLER		Drilling Company Approval No.: 99999	1/4 or LSD	Sec SE	Twp 19 046
Mailing Address: UNKNOWN		Postal Code: T2W 0K5	Rge 27	West of M	4
Well Owner's Name: JESENOVEC, JOSEPH		Well Location Identifier:	Location in Quarter 0 FT from Boundary 0 FT from Boundary		
P.O. Box Number:	Mailing Address: 106 SPRINGWOOD DR SW, CALGARY	Postal Code:	Lot	Block	Plan
City:	Province:	Country:	Well Elev: FT	How Obtain: Not Obtain	
3. Drilling Information			6. Well Yield		
Type of Work: Chemistry Reclaimed Well Date Reclaimed(yyyy/mm/dd):		Proposed well use: Domestic Anticipated Water Requirements/day 0 Gallons	Test Date (yyyy/mm/dd):		
Method of Drilling: Drilled			Test Method: Non pumping FT static level:		
Flowing Well: No Gas Present: No		Rate: Gallons Oil Present: No	Rate of water removal: Gallons/Min		
4. Formation Log		5. Well Completion	Depth of pump intake: FT		
Lithology Description		Date Started(yyyy/mm/dd):	Date Completed (yyyy/mm/dd):		
		Well Depth: 60 FT	Borehole Diameter: 0 Inches		
		Casing Type:	Liner Type:		
		Size OD: 0 Inches	Size OD: 0 Inches		
		Wall Thickness: 0 Inches	Wall Thickness: 0 Inches		
		Bottom at: 0 FT	Top: 0 FT Bottom: 0 FT		
		Perforations from: 0 FT to: 0 FT from: 0 FT to: 0 FT from: 0 FT to: 0 FT	Perforations Size: 0 Inches x 0 Inches 0 Inches x 0 Inches 0 Inches x 0 Inches		
		Perforated by:			
		Seal: from: 0 FT to: 0 FT Seal: from: 0 FT to: 0 FT Seal: from: 0 FT to: 0 FT			
		Screen Type: Screen ID: 0 Inches from: 0 FT to: 0 FT Slot Size: 0 Inches			
		Screen Type: Screen ID: 0 Inches from: 0 FT to: 0 FT Slot Size: 0 Inches			
		Screen Installation Method:			
		Fittings Top: Bottom:			
		Pack: Grain Size: Amount:			
		Geophysical Log Taken: Retained on Files:			
Additional Test and/or Pump Data Chemistries taken By Driller: No Held: 1 Documents Held: 1					
Pitless Adapter Type: Drop Pipe Type: Length: Diameter:					
Comments:					
7. Contractor Certification			Total Drawdown: FT		
Driller's Name: UNKNOWN DRILLER			If water removal was less than 2 hr duration, reason why:		
Certification No.:			Recommended pumping rate: Gallons/Min		
This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.			Recommended pump intake: FT		
Signature Yr Mo Day			Type pump installed Pump type: Pump model: H.P.: Any further pumptest information?		



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0132775
 Map Verified: Map
 Date Report: 1979/12/12
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information		2. Well Location	
Company Name: FRASER, RON		Drilling Company Approval No.: 1/4 or Sec Twp Rge West of LSD	
Mailing Address:		City or Town: Postal Code: SW 19 046 27 4	
Well Owner's Name: LAVANGE, G.		Well Location Identifier: Location in Quarter	
P.O. Box Number:		0 FT from Boundary	
Mailing Address: MA-ME-O BEACH		0 FT from Boundary	
City:		Lot Block Plan	
Province:		Well Elev: 2850 FT	
Country:		How Obtain: Estimated	
3. Drilling Information		6. Well Yield	
Type of Work: New Well		Test Date (yyyy/mm/dd): 1979/10/30	
Reclaimed Well		Start Time: 11:00 AM	
Date Reclaimed(yyyy/mm/dd):		Test Method: Bailer	
Materials Used:		Non pumping static level: 32 FT	
Method of Drilling: Rotary		Rate of water removal: 10 Gallons/Min	
Flowing Well: No		Depth of pump intake: 40 FT	
Rate: Gallons		Water level at end of pumping: FT	
Oil Present: No		Distance from top of casing to ground level: Inches	
4. Formation Log		5. Well Completion	
Depth from ground level (feet)		Date Started(yyyy/mm/dd): 1979/10/28	
Lithology Description		Date Completed(yyyy/mm/dd): 1979/10/30	
45 Clay		Well Depth: 74 FT	
58 Soft Shale		Borehole Diameter: 0 Inches	
65 Shale		Casing Type: Unknown	
74 Sandy Shale		Liner Type:	
		Size OD: 4.5 Inches	
		Wall Thickness: 0 Inches	
		Wall Thickness: 0 Inches	
		Bottom at: 63 FT	
		Top: 0 FT Bottom: 0 FT	
		Perforations	
		Perforations Size:	
		from: 0 FT to: 0 FT	
		0 Inches x 0 Inches	
		from: 0 FT to: 0 FT	
		0 Inches x 0 Inches	
		from: 0 FT to: 0 FT	
		0 Inches x 0 Inches	
		Perforated by:	
		Seal: Driven	
		from: 0 FT to: 0 FT	
		Seal:	
		from: 0 FT to: 0 FT	
		Seal:	
		from: 0 FT to: 0 FT	
		Screen Type:	
		Screen ID: 0 Inches	
		from: 0 FT to: 0 FT	
		Slot Size: 0 Inches	
		Screen Type:	
		Screen ID: 0 Inches	
		from: 0 FT to: 0 FT	
		Slot Size: 0 Inches	
		Screen Installation Method:	
		Fittings	
		Top: Bottom:	
		Pack:	
		Grain Size: Amount:	
		Geophysical Log Taken:	
		Retained on Files:	
		Additional Test and/or Pump Data	
		Chemistries taken By Driller: No	
		Held: 0 Documents Held: 1	
		Pitless Adapter Type:	
		Drop Pipe Type:	
		Length: FT Diameter: Inches	
		Comments:	
		DRILLER REPORTS SOFT WATER	
		7. Contractor Certification	
		Driller's Name: UNKNOWN DRILLER	
		Certification No.:	
		This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.	
		Signature Yr Mo Day	

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.:	0132777
Map Verified:	Map
Date Report	1984/12/06
Received:	
Measurements:	Imperial

1. Contractor & Well Owner Information				2. Well Location			
Company Name: FRASER, RON		Drilling Company Approval No.:		1/4 or Sec	Twp	Rge	West of
Mailing Address:		City or Town:		SW	19	046	27 M
Well Owner's Name: LAVANGE, G.		Well Location Identifier:		Location in Quarter			
P.O. Box Number:		Mailing Address: MA-ME-O BEACH		Postal Code:		Boundary	
City:		Province:		Country:		Boundary	
				Lot Block Plan			
				Well Elev: FT		How Obtain: Not Obtain	
3. Drilling Information				6. Well Yield			
Type of Work: New Well		Proposed well use:		Test Date		Start Time:	
Reclaimed Well		Domestic & Stock		(yyyy/mm/dd):		11:00 AM	
Date Reclaimed(yyyy/mm/dd):		Anticipated Water		1984/08/21			
Method of Drilling: Rotary		Requirements/day		Test Method: Bailer			
Flowing Well: No		0 Gallons		Non pumping		7 FT	
Gas Present: No		Rate: Gallons		static level:			
Oil Present: No				Rate of water		10	
				removal:		Gallons/Min	
4. Formation Log		5. Well Completion		Depth of		40 FT	
Depth		Date Started(yyyy/mm/dd):		Date Completed			
from		(yyyy/mm/dd):		(yyyy/mm/dd):			
ground		1984/08/21		1984/08/21			
level		Well Depth: 85 FT		Borehole Diameter: 0 Inches			
(feet)		Casing Type: Galvanized		Liner Type:			
Lithology Description		Steel					
54	Clay	Size OD: 4.5 Inches		Size OD: 0 Inches			
72	Blue Shale	Wall Thickness: 0 Inches		Wall Thickness: 0 Inches			
75	Sandy Shale	Bottom at: 56 FT		Top: 0 FT Bottom: 0 FT			
85	Shale	Perforations		Perforations Size:			
		from: 0 FT to: 0 FT		0 Inches x 0 Inches			
		from: 0 FT to: 0 FT		0 Inches x 0 Inches			
		from: 0 FT to: 0 FT		0 Inches x 0 Inches			
		Perforated by:					
		Seal: Driven					
		from: 0 FT		to: 56 FT			
		Seal:					
		from: 0 FT		to: 0 FT			
		Seal:					
		from: 0 FT		to: 0 FT			
		Screen Type:		Screen ID: 0 Inches			
		from: 0 FT to: 0 FT		Slot Size: 0 Inches			
		Screen Type:		Screen ID: 0 Inches			
		from: 0 FT to: 0 FT		Slot Size: 0 Inches			
		Screen Installation Method:					
		Fittings					
		Top:		Bottom:			
		Pack:					
		Grain Size:		Amount:			
		Geophysical Log Taken:					
		Retained on Files:					
		Additional Test and/or Pump Data					
		Chemistries taken By Driller: No					
		Held: 0		Documents Held: 1			
		Pitless Adapter Type:					
		Drop Pipe Type:					
		Length: FT		Diameter: Inches			
		Comments:					
		DRILLER REPORTS MED-HARD WATER					
7. Contractor Certification				Recommended pumping rate: 10			
Driller's Name:				Gallons/Min			
Certification No.:				Recommended pump intake: 50 FT			
This well was constructed in accordance with the Water				Type Pump Installed			
Well regulation of the Alberta Environmental Protection &				Pump Type:			
Enhancement Act. All information in this report is true.				Pump Model:			
Signature				H.P.:			
Yr Mo Day				Any further pump test information?			



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0151919
 Map Verified: Map
 Date Report: 1990/02/13
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: FRASER, RON
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: STEWART, BOB
 P.O. Box Number: Mailing Address: MAMEO BEACH
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SW 19 046 27 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan
 Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: Rate: Gallons
 Oil Present:

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): 1989/10/27
 Start Time: 11:00 AM
 Test Method: Bailer
 Non pumping static level: 48 FT
 Rate of water removal: 8 Gallons/Min
 Depth of pump intake: 60 FT
 Water level at end of pumping: 51 FT
 Distance from top of casing to ground level: inches
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 3 FT
 If water removal was less than 2 hr duration, reason why:
 Recommended pumping rate: 8 Gallons/Min
 Recommended pump intake: 0 FT
 Type Pump Installed
 Pump Type:
 Pump Model:
 H.P.:
 Any further pumptest information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 40 Clay
 63 Blue Shale
 75 Sandy Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1989/10/27
 Date Completed (yyyy/mm/dd): 1989/10/27
 Well Depth: 75 FT
 Borehole Diameter: 0 Inches
 Casing Type: Galvanized Steel
 Liner Type:
 Size OD: 4.5 Inches
 Size OD: 0 Inches
 Wall Thickness: 0.156 Inches
 Wall Thickness: 0 Inches
 Bottom at: 60 FT
 Top: 0 FT Bottom: 0 FT
 Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 Perforated by:
 Seal: Driven
 from: 60 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount: 0
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: FT Diameter: Inches
 Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: 3432
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075226
 Map Verified: Not Verified
 Date Report: 1972/06/29
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: STARKEY DRILLING
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: BAILEY, G.
 Well Location Identifier:
 P.O. Box Number: Mailing Address: CALGARY Postal Code:
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 01 13 046 28 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Drilled
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): 1972/05/12
 Start Time: 11:00 AM
 Test Method: Bailer & Pump
 Non pumping static level: 26 FT

Rate of water removal: 5 Gallons/Min

Depth of pump intake: 0 FT

Water level at end of pumping: FT

Distance from top of casing to ground level: Inches

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 0 FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 0 Gallons/Min

Recommended pump intake: 0 FT

Type Pump Installed
 Pump Type:
 Pump Model:
 H.P.:
 Any further pumptest information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 85 Blue Clay
 100 Shale
 120 Sand

5. Well Completion

Date Started(yyyy/mm/dd): 1972/05/12
 Date Completed (yyyy/mm/dd): 1972/05/12
 Well Depth: 120 FT Borehole Diameter: 0 Inches
 Casing Type: Unknown Liner Type:
 Size OD: 0 Inches Size OD: 0 Inches
 Wall Thickness: 0 Inches Wall Thickness: 0 Inches
 Bottom at: 93 FT Top: 0 FT Bottom: 0 FT

Perforations from: 0 FT to: 0 FT Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches

Perforated by:

Seal: Driven from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Screen Type: from: 0 FT to: 0 FT Screen ID: 0 Inches Slot Size: 0 Inches

Screen Type: from: 0 FT to: 0 FT Screen ID: 0 Inches Slot Size: 0 Inches

Screen Installation Method:

Fittings

Top: Bottom:

Pack:

Grain Size: Amount:

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: Yes

Held: 0 Documents Held: 1

Pitless Adapter Type:

Drop Pipe Type:

Length: FT Diameter: Inches

Comments:

DRILLER REPORTS WATER SOFT & CLEAR.

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Certification No.:

This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.

Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0287590
 Map Verified: Not Verified
 Date Report: 1997/08/13
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information			2. Well Location		
Company Name: SCHMIDT DRILLING LTD.		Drilling Company Approval No.: 119156		1/4 or Sec Twp Rge West of LSD M NE 13 046 28 4	
Mailing Address: RR 2, SITE 16, BOX 16		City or Town: PONOKA ALBERTA CANADA		Postal Code: T4J 1R2	
Well Owner's Name: JOHNSON, BERNICE (SAMSON MAINT)		Well Location Identifier:		Location in Quarter 0 FT from Boundary 0 FT from Boundary	
P.O. Box Number: 159		Mailing Address: HOBBERMA		Postal Code: T0C 1N0	
City:		Province:		Country:	
3. Drilling Information			6. Well Yield		
Type of Work: New Well Reclaimed Well		Proposed well use: Domestic		Test Date (yyyy/mm/dd): 1997/06/02	
Date Reclaimed(yyyy/mm/dd):		Materials Used:		Start Time: 11:00 AM	
Method of Drilling: Rotary		Rate: Gallons Oil Present: No		Test Method: Air	
Flowing Well: No		Requirements/day 500 Gallons		Non pumping static level: 11.4 FT	
Gas Present: No				Rate of water removal: 25 Gallons/Min	
4. Formation Log			5. Well Completion		
Depth from ground level (feet)		Lithology Description		Date Started(yyyy/mm/dd): 1997/06/02	
16 Clay				Date Completed (yyyy/mm/dd): 1997/06/02	
53 Gray Till & Clay				Well Depth: 130 FT	
95 Gray Shale				Borehole Diameter: 0 Inches	
125 Gray Sandstone				Casing Type: Steel	
130 Gray Shale				Liner Type: Plastic	
				Size OD: 5.56 Inches	
				Size OD: 4.5 Inches	
				Wall Thickness: 0.188 Inches	
				Wall Thickness: 0.237 Inches	
				Bottom at: 80 FT	
				Top: 70 FT Bottom: 130 FT	
				Perforations	
				Perforations Size:	
				from: 110 FT to: 130 FT	
				0.25 Inches x 12 Inches	
				from: 0 FT to: 0 FT	
				0 Inches x 0 Inches	
				from: 0 FT to: 0 FT	
				0 Inches x 0 Inches	
				Perforated by: Saw	
				Seal: Bentonite Chips/Tablets	
				from: 0 FT to: 80 FT	
				Seal:	
				from: 0 FT to: 0 FT	
				Seal:	
				from: 0 FT to: 0 FT	
				Screen Type:	
				Screen ID: 0 Inches	
				Slot Size: 0 Inches	
				Screen Type:	
				Screen ID: 0 Inches	
				Slot Size: 0 Inches	
				Screen Installation Method:	
				Fittings	
				Top: Bottom:	
				Pack:	
				Grain Size: Amount:	
				Geophysical Log Taken:	
				Retained on Files:	
				Additional Test and/or Pump Data	
				Chemistries taken By Driller: No	
				Held: 0 Documents Held: 1	
				Pitless Adapter Type:	
				Drop Pipe Type:	
				Length: FT Diameter: Inches	
				Comments:	
				DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 2'	
7. Contractor Certification					
Driller's Name:		UNKNOWN DRILLER			
Certification No.:		VA4906			
This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.					
Signature		Yr Mo Day			



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075221
 Map Verified: Map
 Date Report: 1982/12/15
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: FLINN DRILLING LTD.
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: JOHNSON, ROBERT
 Well Location Identifier:
 P.O. Box Number: Mailing Address: HOBBEA
 Postal Code:
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NW 13 046 28 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well:
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Cable Tool
 Flowing Well: No
 Gas Present: No
 Rate: Gallons
 Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date Start Time:

(yyyy/mm/dd):
 1982/12/03 11:00 AM

Test Method: Bailer

Non pumping
 static level: 50 FT

Rate of water
 removal: 10
 Gallons/Min

Depth of
 pump intake: 75 FT

Water level at
 end of
 pumping: 50 FT

Distance from top of
 casing to ground
 level: inches

Depth To water level (feet)
 Elapsed Time

Drawdown Minutes: Sec Recovery
 Total Drawdown: 25 FT

If water removal was less than 2 hr
 duration, reason why:

Recommended pumping rate: 10
 Gallons/Min

Recommended pump intake: 100
 FT

Type Pump Installed

Pump Type:

Pump Model:

H.P.:

Any further pump test information?

4. Formation Log

Depth
 from
 ground
 level
 (feet)
 Lithology Description
 20 Yellow Clay
 65 Gray Sandy Till
 110 Sandy Till & Rocks
 120 Green Shale
 125 Gray Shale
 130 Hard Sandstone
 144 Sandstone & Shale Ledges
 153 Hard Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1982/12/01
 Date Completed (yyyy/mm/dd): 1982/12/03
 Well Depth: 153 FT
 Borehole Diameter: 0 Inches
 Casing Type: Steel
 Liner Type: Steel
 Size OD: 5.56 inches
 Size OD: 4.5 inches
 Wall Thickness: 0.188
 Wall Thickness: 0 inches
 Bottom at: 118 FT
 Top: 0 FT Bottom: 153
 FT
 Perforations
 from: 118 FT to: 153 FT
 Perforations Size:
 0.125 inches x 18 inches
 from: 0 FT to: 0 FT
 0 inches x 0 inches
 from: 0 FT to: 0 FT
 0 inches x 0 inches

Perforated by: Torch

Seal: Driven
 from: 0 FT to: 118 FT

Seal:
 from: 0 FT to: 0 FT

Seal:
 from: 0 FT to: 0 FT

Screen Type: Screen ID: 0 inches
 from: 0 FT to: 0 FT Slot Size: 0 inches

Screen Type: Screen ID: 0 inches
 from: 0 FT to: 0 FT Slot Size: 0 inches

Screen Installation Method:

Fillings
 Top: Bottom:

Pack:
 Grain Size: Amount:

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: No

Held: 0 Documents Held: 1

Pitless Adapter Type:

Drop Pipe Type:
 Length: FT Diameter: inches

Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Certification No.: 628

This well was constructed in accordance with the Water
 Well regulation of the Alberta Environmental Protection &
 Enhancement Act. All information in this report is true.

Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075223
 Map Verified: Not Verified
 Date Report: 1989/08/03
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: **WARNKE DRILLING LTD.** Drilling Company Approval No.: **119799**
 Mailing Address: **RR 3** City or Town: **WETASKIWIN AB CA** Postal Code: **T9A 1X1**
 Well Owner's Name: **PETERS, H.** Well Location Identifier:
 P.O. Box Number: Mailing Address: **192 WILLOW DR., WETASKIWIN** Postal Code:
 City: Province: Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NW 13 046 28 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan
 Well Elev: FT How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Drilled
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): **1989/06/22** Start Time: **11:00 AM**
 Test Method: Pump
 Non pumping static level: **35 FT**
 Rate of water removal: **10 Gallons/Min**
 Depth of pump intake: **70 FT**
 Water level at end of pumping: **35 FT**
 Distance from top of casing to ground level:
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: **35 FT**
 If water removal was less than 2 hr duration, reason why:

4. Formation Log

Depth from ground level (feet)
Lithology Description
 18 Brown Clay
 95 Blue Clay & Rocks
 120 Green Shale
 130 Gray Shale
 140 Sandstone
 150 Gray Shale

5. Well Completion

Date Started(yyyy/mm/dd): **1989/06/22** Date Completed (yyyy/mm/dd): **1989/06/22**
 Well Depth: **150 FT** Borehole Diameter: **0 Inches**
 Casing Type: **Steel** Liner Type:
 Size OD: **4.5 Inches** Size OD: **0 Inches**
 Wall Thickness: **0.156 Inches** Wall Thickness: **0 Inches**
 Bottom at: **103 FT** Top: **0 FT** Bottom: **0 FT**
 Perforations from: **0 FT** to: **0 FT** Perforations Size: **0 Inches x 0 Inches**
 from: **0 FT** to: **0 FT** **0 Inches x 0 Inches**
 from: **0 FT** to: **0 FT** **0 Inches x 0 Inches**
 Perforated by:
 Seal: Driven from: **100 FT** to: **103 FT**
 Seal: from: **0 FT** to: **0 FT**
 Seal: from: **0 FT** to: **0 FT**
 Screen Type: from: **0 FT** to: **0 FT** Screen ID: **0 Inches** Slot Size: **0 Inches**
 Screen Type: from: **0 FT** to: **0 FT** Screen ID: **0 Inches** Slot Size: **0 Inches**
 Screen Installation Method:
 Fittings Top: Bottom:
 Pack: Amount:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: **0** Documents Held: **1**
 Pitless Adapter Type:
 Drop Pipe Type: Length: **80 FT** Diameter: **1 Inches**
 Comments:

Recommended pumping rate: **8 Gallons/Min**
 Recommended pump intake: **90 FT**
 Type Pump Installed
 Pump Type: **SUB**
 Pump Model:
 H.P.: **.5**
 Any further pumptest information?

7. Contractor Certification

Driller's Name: **UNKNOWN DRILLER**
 Certification No.: **3503**
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0288822
 Map Verified: Not Verified
 Date Report: 1998/03/30
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information		2. Well Location	
Company Name: BAR-K WATER WELL DRILLING LTD.		Drilling Company Approval No.: 1/4 or Sec Twp Rge West of LSD NW 13 046 28 M	
Mailing Address: City or Town: Postal Code:		Location in Quarter: 0 FT from Boundary 0 FT from Boundary	
Well Owner's Name: COWARD, GARY		Lot Block Plan: 814	
P.O. Box Number: Mailing Address: 814 MA-ME-O BEACH, PIGEON LAKE		Well Elev: FT How Obtain: Not Obtain	
City: Province: Country:		6. Well Yield	
3. Drilling Information		Test Date (yyyy/mm/dd): 1998/02/27 Start Time: 1:20 PM	
Type of Work: New Well Reclaimed Well		Test Method: Air	
Date Reclaimed (yyyy/mm/dd): Materials Used:		Non pumping static level: 21.5 FT	
Method of Drilling: Rotary		Rate of water removal: 8.5 Gallons/Min	
Flowing Well: No Rate: Gallons		Depth of pump intake: 50 FT	
Gas Present: No Oil Present: No		Water level at end of pumping: 26 FT	
4. Formation Log		Distance from top of casing to ground level: Depth To water level (feet) Elapsed Time	
Depth from ground level (feet) Lithology Description		Drawdown Minutes: Sec Recovery	
24	Sand	1:00 23.42	
84	Sandy Clay & Rocks	2:00 21.67	
92	Shale	26.75 120:00	
101	Soft Sand & Sandstone	Total Drawdown: 5 FT	
103	Gray Hard Sandstone	If water removal was less than 2 hr duration, reason why:	
116	Sandstone	Recommended pumping rate: 8 Gallons/Min	
117	Hard Sandstone	Recommended pump intake: 40 FT	
130	Sandstone	Type Pump Installed	
5. Well Completion		Pump Type:	
Date Started (yyyy/mm/dd): 1998/02/24 Date Completed (yyyy/mm/dd): 1998/02/27		Pump Model:	
Well Depth: 130 FT Borehole Diameter: 0 Inches		H.P.:	
Casing Type: Plastic Liner Type: Plastic		Any further pump test information?	
Size OD: 6 Inches Size OD: 4.5 Inches			
Wall Thickness: 0.432 Inches Wall Thickness: 0.237 Inches			
Bottom at: 103 FT Top: 100 FT Bottom: 130 FT			
Perforations from: 120 FT to: 130 FT Perforations Size: 0.02 Inches x 3 Inches			
from: 0 FT to: 0 FT 0 Inches x 0 Inches			
from: 0 FT to: 0 FT 0 Inches x 0 Inches			
Perforated by: Machine			
Seal: Cement/Grout			
from: 55 FT to: 103 FT			
Seal:			
from: 0 FT to: 0 FT			
Seal:			
from: 0 FT to: 0 FT			
Screen Type: Screen ID: 0 Inches			
from: 0 FT to: 0 FT Slot Size: 0 Inches			
Screen Type: Screen ID: 0 Inches			
from: 0 FT to: 0 FT Slot Size: 0 Inches			
Screen Installation Method:			
Fittings			
Top: Bottom:			
Pack:			
Grain Size: Amount:			
Geophysical Log Taken:			
Retained on Files:			
Additional Test and/or Pump Data			
Chemistries taken By Driller: No			
Held: 0 Documents Held: 1			
Pitless Adapter Type:			
Drop Pipe Type:			
Length: FT Diameter: Inches			
Comments:			
DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 15".			
7. Contractor Certification			
Driller's Name: UNKNOWN DRILLER			
Certification No.: VA2732			
This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.			
Signature Yr Mo Day			



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075213
 Map Verified: Not Verified
 Date Report
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: ELK POINT DRILLING CORP.
 Mailing Address: 11-53106, RANGE ROAD 264
 Well Owner's Name: GREEN, STANLEY
 P.O. Box Number:
 City:
 Drilling Company Approval No.: 99238
 City or Town: SPRUCE GROVE ALBERTA
 Canada
 Well Location Identifier:
 Mailing Address: HOBBEWA
 Province:
 Postal Code:
 Country:

2. Well Location

1/4 or Sec Twp Rge Westof
 LSD M
 SE 13 046 28 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan
 Well Elev: 2800 FT
 How Obtain: Estimated

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Drilled
 Flowing Well: No
 Gas Present: No
 Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons
 Rate: Gallons
 Oil Present: No

6. Well Yield

Test Date (yyyy/mm/dd): 1977/10/19
 Start Time: 11:00 AM
 Test Method: Pump
 Non pumping static level: 44 FT
 Rate of water removal: 7 Gallons/Min
 Depth of pump intake: 70 FT
 Water level at end of pumping: 44 FT
 Distance from top of casing to ground level: inches
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 16 FT
 If water removal was less than 2 hr duration, reason why:

4. Formation Log

Depth from ground level (feet)	Lithology Description
1	Topsoil
21	Oxidized Till
52	Gray Till
88	Green Shale
98	Hard Sandstone
140	Fractured Shale
160	Clayey Sandstone
180	Sandstone
190	Green Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1977/10/19
 Date Completed (yyyy/mm/dd): 1977/10/19
 Well Depth: 190 FT
 Borehole Diameter: 0 Inches
 Casing Type: Steel
 Liner Type:
 Size OD: 5.56 Inches
 Size OD: 0 Inches
 Wall Thickness: 0 Inches
 Wall Thickness: 0 Inches
 Bottom at: 103 FT
 Top: 0 FT Bottom: 0 FT
 Perforations
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 Perforated by:
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: 70 FT Diameter: 1 Inches
 Comments:

Recommended pumping rate: 6 Gallons/Min
 Recommended pump intake: 70 FT
 Type Pump Installed
 Pump Type: SUB
 Pump Model: JACUZZI
 H.P.: .5
 Any further pump test information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0153264
 Map Verified: Not Verified
 Date Report: 1990/11/07
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: WARNKE DRILLING LTD.
 Mailing Address: RR 3
 Well Owner's Name: DANYLUK, JIM
 P.O. Box Number:
 City:
 Province:
 Country:
 Drilling Company Approval No.: 119799
 City or Town: WETASKIWIN AB CA
 Well Location Identifier:
 Mailing Address: 1219-HUNTERQUAY HILL NW., CALGARY
 Postal Code:
 Postal Code:
 Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SE 13 046 28 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

6. Well Yield

Test Date (yyyy/mm/dd): 1990/09/17
 Start Time: 11:00 AM

Test Method: Pump

Non pumping static level: 20 FT

Rate of water removal: 10 Gallons/Min

Depth of pump intake: 70 FT

Water level at end of pumping: 20 FT

Distance from top of casing to ground level: Inches

Depth To water level (feet) Elapsed Time

Drawdown Minutes: Sec Recovery

Total Drawdown: 0 FT

If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 10 Gallons/Min

Recommended pump intake: 0 FT

Type Pump Installed

Pump Type:

Pump Model:

H.P.:

Any further pumptest information?

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present:
 Proposed well use: Domestic
 Anticipated Water Requirements/day: 0 Gallons
 Materials Used:
 Rate: Gallons
 Oil Present:

4. Formation Log

Depth from ground level (feet)	Lithology Description
10	Sand
80	Blue Clay
95	Green Shale
105	Green Shale
120	Gray Shale & Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1990/09/17
 Date Completed(yyyy/mm/dd): 1990/09/17
 Well Depth: 120 FT
 Borehole Diameter: 0 Inches
 Casing Type: Galvanized Steel
 Liner Type:
 Size OD: 4.5 Inches
 Size OD: 0 Inches
 Wall Thickness: 0.156 Inches
 Wall Thickness: 0 Inches
 Bottom at: 102 FT
 Top: 0 FT Bottom: 0 FT
 Perforations
 from: 0 FT to: 0 FT
 from: 0 FT to: 0 FT
 from: 0 FT to: 0 FT
 Perforations Size:
 0 Inches x 0 Inches
 0 Inches x 0 Inches
 0 Inches x 0 Inches
 Perforated by:
 Seal: Driven
 from: 0 FT to: 102 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Filings
 Top: Bottom:
 Pack:
 Grain Size: Amount: 0
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: FT Diameter: Inches
 Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: 3503
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0286758
 Map Verified: Not Verified
 Date Report: 1997/05/05
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information			2. Well Location		
Company Name: WARNKE DRILLING LTD.		Drilling Company Approval No.: 119799		1/4 or Sec Twp Rge West of LSD M SE 13 046 28 4	
Mailing Address: RR 3		City or Town: WETASKIWIN AB CA		Postal Code: T9A 1X1	
Well Owner's Name: MONTGOMERY, IRENE		Well Location Identifier:		Location in Quarter 0 FT from Boundary 0 FT from Boundary	
P.O. Box Number:		Mailing Address: 5420 50 AVE, WETASKIWIN		Postal Code: T9A 0T2	
City:		Province:		Country:	
3. Drilling Information			6. Well Yield		
Type of Work: New Well Reclaimed Well			Proposed well use: Domestic Anticipated Water Requirements/day 400 Gallons		
Date Reclaimed(yyyy/mm/dd):			Materials Used:		
Method of Drilling: Rotary			Flowing Well: No Gas Present: No		
Rate: Gallons Oil Present: No			Test Date (yyyy/mm/dd): 1996/09/24		
			Start Time: 11:00 AM		
			Test Method: Pump		
			Non pumping static level: 22.9 FT		
			Rate of water removal: 12 Gallons/Min		
			Depth of pump intake: 70 FT		
			Water level at end of pumping: 31 FT		
			Distance from top of casing to ground level: Inches		
4. Formation Log			5. Well Completion		
Depth from ground level (feet)		Lithology Description		Date Started(yyyy/mm/dd): 1996/09/20	
25		Sand		Date Completed (yyyy/mm/dd): 1996/09/23	
94		Blue Clay		Well Depth: 135 FT	
105		Gray Shale		Borehole Diameter: 0 Inches	
115		Green Shale		Casing Type: Plastic	
135		Sandy Shale & Sandstone		Liner Type: Plastic	
				Size OD: 6 Inches	
				Wall Thickness: 0.237 Inches	
				Wall Thickness: 0.5 Inches	
				Bottom at: 105 FT	
				Top: 95 FT Bottom: 135 FT	
				Perforations	
				from: 115 FT to: 135 FT	
				Perforations Size: 0.02 Inches x 0.01 Inches	
				from: 0 FT to: 0 FT	
				0 Inches x 0 Inches	
				from: 0 FT to: 0 FT	
				0 Inches x 0 Inches	
				Perforated by: Machine	
				Seal: Bentonite Chips/Tablets	
				from: 20 FT to: 105 FT	
				Seal:	
				from: 0 FT to: 0 FT	
				Seal:	
				from: 0 FT to: 0 FT	
				Screen Type:	
				Screen ID: 0 Inches	
				from: 0 FT to: 0 FT	
				Slot Size: 0 Inches	
				Screen Type:	
				Screen ID: 0 Inches	
				from: 0 FT to: 0 FT	
				Slot Size: 0 Inches	
				Screen Installation Method:	
				Fittings	
				Top: Bottom:	
				Pack:	
				Grain Size: Amount:	
				Geophysical Log Taken:	
				Retained on Files:	
				Additional Test and/or Pump Data	
				Chemistries taken By Driller: No	
				Held: 0 Documents Held: 1	
				Pitless Adapter Type:	
				Drop Pipe Type:	
				Length: FT Diameter: Inches	
				Comments:	
				DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 18".	
7. Contractor Certification					
Driller's Name: UNKNOWN DRILLER					
Certification No.: 3503					
This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.					
Signature Yr Mo Day					



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0286760
 Map Verified: Not Verified
 Date Report: 1997/05/05
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: **WARNKE DRILLING LTD.** Drilling Company Approval No.: **119799**
 Mailing Address: **RR 3** City or Town: **WETASKIWIN AB CA** Postal Code: **T9A 1X1**
 Well Owner's Name: **JOHNSON, LEAVER T** Well Location Identifier:
 P.O. Box Number: Mailing Address: **5013 51 ST, WETASKIWIN** Postal Code:
 City: Province: Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SE 13 046 28 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan
 S5, N6 4 2414CL
 Well Elev: How Obtain:
 FT Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 400 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd):
 1996/09/25 11:00 AM
 Test Method: Pump
 Non pumping 28.5 FT
 static level:

Rate of water removal: 12
 Gallons/Min

Depth of pump intake: 70 FT

Water level at end of pumping: 32 FT

Distance from top of casing to ground level: inches

Depth To water level (feet)
 Elapsed Time

Drawdown Minutes: Sec Recovery
 28.543 0:00 32.546

32.546 1:00 28.543

9.92 2:00

9.92 3:00

120:00 28.543

Total Drawdown: 0 FT

If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 12
 Gallons/Min

Recommended pump intake: 70 FT

Type Pump Installed

Pump Type:

Pump Model:

H.P.:

Any further pump test information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 25 Sand
 99 Blue Clay
 110 Gray Shale
 120 Green Shale
 135 Sandy Shale & Sandstone

5. Well Completion

Date Started(yyyy/mm/dd):
 1996/09/24
 Date Completed(yyyy/mm/dd):
 1996/09/25
 Well Depth: 135 FT Borehole Diameter: 0 Inches
 Casing Type: Plastic Liner Type: Plastic
 Size OD: 6 Inches Size OD: 4 Inches
 Wall Thickness: 0.5 Inches Wall Thickness: 0.237 Inches
 Bottom at: 110 FT Top: 105 FT Bottom: 135 FT

Perforations
 from: 110 FT to: 135 FT 0.02 Inches x 0.01 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches

Perforated by: Machine

Seal: Bentonite Chips/Tablets
 from: 20 FT to: 110 FT

Seal: from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Installation Method:

Fittings
 Top: Bottom:

Pack:
 Grain Size: Amount:

Geophysical Log Taken:
 Retained on Files:

Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1

Pitless Adapter Type:
 Drop Pipe Type:
 Length: FT Diameter: Inches

Comments:
 DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 18".

Comments:
 DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 18".

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Comments:
 DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 18".

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: 3503
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075218
 Map Verified: Not Verified
 Date Report: 1979/01/11
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: ELGIN EXPLORATION COMPANY LIMITED
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: YELLOWBIRD, MARY
 P.O. Box Number: Mailing Address: HOBBEA Postal Code:
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SW 13 046 28 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Drilled
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd): 1978/10/01 11:00 AM
 Test Method: Air
 Non pumping 57 FT
 static level:
 Rate of water 47
 removal: Gallons/Min
 Depth of 100 FT
 pump intake:
 Water level at 57 FT
 end of
 pumping:
 Distance from top of Inches
 casing to ground
 level:
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes:Sec Recovery
 Total Drawdown: 43 FT
 If water removal was less than 2 hr
 duration, reason why:

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 85 Sandy Clay & Rocks
 140 Shale & Sandstone Ledges

5. Well Completion

Date Started(yyyy/mm/dd): 1978/10/01
 Date Completed (yyyy/mm/dd): 1978/10/01
 Well Depth: 140 FT Borehole Diameter: 0 Inches
 Casing Type: Steel Liner Type: Steel
 Size OD: 5.56 Inches Size OD: 4.5 Inches
 Wall Thickness: 0 Inches Wall Thickness: 0.156 Inches
 Bottom at: 90 FT Top: 12 FT Bottom: 120 FT
 Perforations Perforations Size:
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 Perforated by:
 Seal: Drive Shoe
 from: 85 FT to: 120 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches
 Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: 66 FT Diameter: 1 Inches
 Comments:

Recommended pumping rate: 0
 Gallons/Min
 Recommended pump intake: 77 FT
 Type Pump Installed
 Pump Type: SUB
 Pump Model:
 H.P.: .5
 Any further pump test information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: 108
 This well was constructed in accordance with the Water
 Well regulation of the Alberta Environmental Protection &
 Enhancement Act. All information in this report is true.
 Signature Yr Mo Day

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.:	0153265
Map Verified:	Not Verified
Date Report	1990/11/07
Received:	
Measurements:	Imperial

1. Contractor & Well Owner Information						2. Well Location					
Company Name: SIMON'S DRILLING & PLUMBING INC.			Drilling Company Approval No.:			1/4 or Sec Twp Rge Westof LSD M SW 13 046 28 4					
Mailing Address:			City or Town:			Postal Code:			Location in Quarter		
WellOwner's Name: ROAN, HARRY			Well Location Identifier:			0 FT from Boundary			0 FT from Boundary		
P.O. Box Number:			Mailing Address: MAMEO BEACH			Postal Code:			Lot Block Plan		
City:			Province:			Country:			Well Elev: How Obtain: FT Not Obtain		
3. Drilling Information						6. Well Yield					
Type of Work: New Well						Test Date Start Time:					
Reclaimed Well						(yyyy/mm/dd):					
Date Reclaimed(yyyy/mm/dd):						Materials Used:					
Method of Drilling: Rotary						Proposed well use:					
Flowing Well: No						Domestic					
Gas Present:						Anticipated Water Requirements/day					
Rate: Gallons						0 Gallons					
Oil Present:						Non pumping static level:					
						70 FT					
4. Formation Log						5. Well Completion					
Depth from ground level (feet)			Lithology Description			Date Started(yyyy/mm/dd):			Date Completed (yyyy/mm/dd):		
30 Sand & Gravel						1990/09/12			1990/09/14		
40 Clay & Rocks						Well Depth: 160 FT			Borehole Diameter: 0 Inches		
90 Sandstone						Casing Type: Steel			Liner Type: Steel		
128 Shale						Size OD: 5.56 Inches			Size OD: 4.5 Inches		
134 Sandstone						Wall Thickness: 0.188 Inches			Wall Thickness: 0.156 Inches		
140 Shale						Bottom at: 100 FT			Top: 98 FT Bottom: 160 FT		
160 Sandstone						Perforations from: 140 FT to: 160 FT			Perforations Size: 0 Inches x 0 Inches		
						from: 0 FT to: 0 FT			0 Inches x 0 Inches		
						from: 0 FT to: 0 FT			0 Inches x 0 Inches		
						Perforated by: Machine					
						Seal: Driven from: 0 FT to: 100 FT					
						Seal: from: 0 FT to: 0 FT					
						Seal: from: 0 FT to: 0 FT					
						Screen Type: from: 0 FT to: 0 FT			Screen ID: 0 Inches Slot Size: 0 Inches		
						Screen Type: from: 0 FT to: 0 FT			Screen ID: 0 Inches Slot Size: 0 Inches		
						Screen Installation Method:					
						Fittings Top: Bottom:					
						Pack: Grain Size: Amount: 0					
						Geophysical Log Taken: Retained on Files:					
						Additional Test and/or Pump Data Chemistries taken By Driller: No Held: 0 Documents Held: 1					
						Pitless Adapter Type: Drop Pipe Type: Length: FT Diameter: Inches					
						Comments:					
7. Contractor Certification											
Driller's Name: UNKNOWN DRILLER											
Certification No.: VA2925											
This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.											
Signature Yr Mo Day											

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.:	0132764
Map Verified:	Not Verified
Date Report Received:	
Measurements:	Imperial

1. Contractor & Well Owner Information			2. Well Location		
Company Name: FORRESTER WATER WELL DRILLING (1981) LTD.		Drilling Company Approval No.:		1/4 or Sec Twp Rge West of LSD 02 17 046 27 4	
Mailing Address:		City or Town:		Postal Code:	
Well Owner's Name: TEXACO EXPL CAN LTD		Well Location Identifier:		Location in Quarter 0 FT from Boundary 0 FT from Boundary	
P.O. Box Number:		Mailing Address: BONNIE GLEN		Postal Code:	
City:		Province:		Country:	
				Well Elev: 2910 FT	
				How Obtain: Estimated	
3. Drilling Information			6. Well Yield		
Type of Work: Dry Hole-Abandoned Reclaimed Well Date Reclaimed(yyyy/mm/dd): 1971/08/05 Materials Used: Unknown Method of Drilling: Cable Tool			Proposed well use: Industrial Anticipated Water Requirements/day 0 Gallons		
Flowing Well: No Gas Present: No			Rate: Gallons Oil Present: No		
4. Formation Log			5. Well Completion		
Depth from ground level (feet)			Date Started(yyyy/mm/dd): Date Completed (yyyy/mm/dd): 1971/08/05		
Lithology Description			Well Depth: 620 FT Borehole Diameter: 0 Inches		
18 Brown Clay			Casing Type:		
28 Gray Shale			Size OD: 0 Inches		
35 Light Gray Shale			Wall Thickness: 0 Inches		
36 Gray Sandstone			Bottom at: 0 FT		
46 Gray Shale			Top: 0 FT Bottom: 0 FT		
50 Dark Gray Shale			Perforations		
73 Dark Gray Water Bearing Sand & Shale			from: 0 FT to: 0 FT		
75 Green Shale & Coal			from: 0 FT to: 0 FT		
81 Gray Shale			from: 0 FT to: 0 FT		
95 Gray Sandstone			Perforated by:		
100 Green Shale			Seal:		
116 Gray Shale			from: 0 FT to: 0 FT		
120 Dark Gray Shale			Seal:		
125 Brownish Gray Shale			from: 0 FT to: 0 FT		
170 Gray Shale			Seal:		
180 Bentonitic Sandstone			from: 0 FT to: 0 FT		
187 Green Shale			Screen Type:		
189 Hard Sandstone			from: 0 FT to: 0 FT		
195 Gray Sandstone			Screen ID: 0 Inches		
210 Gray Shale			Slot Size: 0 Inches		
216 Sandy Shale			Screen Type:		
240 Greenish Gray Shale			from: 0 FT to: 0 FT		
247 Dark Gray Sandy Shale			Screen ID: 0 Inches		
271 Bentonitic Sandstone			Slot Size: 0 Inches		
280 Gray Shale			Screen Installation Method:		
293 Bentonitic Sandstone			Fittings		
300 Gray Shale			Top: Bottom:		
342 Green Shale			Pack:		
346 Bentonitic Sandstone			Grain Size: Amount:		
353 Dark Gray Shale			Geophysical Log Taken:		
364 Green Shale			Retained on Files:		
370 Gray Sandstone & Shale Strg's			Additional Test and/or Pump Data		
385 Bentonitic Sandstone			Chemistries taken By Driller: No		
515 Dark Gray Shale			Held: 0 Documents Held: 2		
525 Coal			Pitless Adapter Type:		
540 Shale & Coal			Drop Pipe Type:		
551 Coal			Length: Diameter:		
555 Gray Shale			Comments:		
568 Gray Sandy Shale					
572 Gray Sandstone					
			7. Contractor Certification		
			Driller's Name: UNKNOWN DRILLER		
			Certification No.:		
			This well was constructed in accordance with the Water		
			Well regulation of the Alberta Environmental Protection &		
			Enhancement Act. All information in this report is true.		
			Signature Yr Mo Day		



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0233496
 Map Verified: Map
 Date Report
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: DOUBLE H DRLG
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: VAN IMMERZEEL, PETER
 P.O. Box Number: Mailing Address: FALUN Postal Code:
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 09 17 046 27 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan

Well Elev: 2875 FT
 How Obtain: Estimated

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No

Materials Used:
 Rate: Gallons
 Oil Present: No

Proposed well use:
 Stock
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): 1977/04/06
 Start Time: 11:00 AM
 Test Method: Bailer
 Non pumping static level: 96 FT

Rate of water removal: 3 Gallons/Min

Depth of pump intake: 0 FT

Water level at end of pumping: FT

Distance from top of casing to ground level: Inches

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 0 FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 0 Gallons/Min

Recommended pump intake: 0 FT

Type Pump Installed
 Pump Type:
 Pump Model:
 H.P.:
 Any further pump test information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 16 Clay
 39 Sandy Clay
 63 Sandy Gravel
 92 Sandy Clay
 101 Shale
 103 Sandy Shale
 123 Shale
 128 Sandy Shale
 131 Sandstone
 148 Shale
 151 Sandy Shale
 163 Shale
 167 Sandy Shale
 174 Shale
 177 Sandy Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1977/04/05
 Date Completed(yyyy/mm/dd): 1977/04/06
 Well Depth: 177 FT
 Borehole Diameter: 0 Inches
 Casing Type: Galvanized Steel
 Liner Type:
 Size OD: 4.5 Inches
 Size OD: 0 Inches
 Wall Thickness: 0 Inches
 Wall Thickness: 0 Inches
 Bottom at: 152 FT
 Top: 0 FT Bottom: 0 FT
 Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 Perforated by:
 Seal: Unknown
 from: 0 FT to: 152 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 1 Documents Held: 2
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: FT Diameter: Inches
 Comments:
 CHEM ORIGINALLY IN NE-17-45-27-4.

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0132767
 Map Verified: Map
 Date Report: 1979/12/12
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: FRASER, RON
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: WOLLIN, D.
 P.O. Box Number: Mailing Address: Postal Code:
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NW 17 046 27 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: 2875 FT
 How Obtain: Estimated

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No
 Rate: Gallons
 Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): 1979/06/08
 Start Time: 11:00 AM
 Test Method: Unknown
 Non pumping static level: 107 FT

Rate of water removal: 10 Gallons/Min

Depth of pump intake: 0 FT

Water level at end of pumping: FT

Distance from top of casing to ground level: inches

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 0 FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 0 Gallons/Min
 Recommended pump intake: 150 FT

Type Pump Installed
 Pump Type:
 Pump Model:
 H.P.:
 Any further pump test information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 20 Sandy Clay
 28 Sand
 114 Sandy Clay
 140 Shale
 155 Sandstone
 188 Shale
 210 Sandy Shale
 212 Sandstone
 230 Sandy Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1979/06/08
 Date Completed(yyyy/mm/dd): 1979/06/08
 Well Depth: 230 FT
 Borehole Diameter: 0 Inches
 Casing Type: Galvanized Steel
 Liner Type:
 Size OD: 4.5 Inches
 Size OD: 0 Inches
 Wall Thickness: 0 Inches
 Wall Thickness: 0 Inches
 Bottom at: 165 FT
 Top: 0 FT Bottom: 0 FT

Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches

Perforated by:

Seal: Driven from: 0 FT to: 165 FT
 Seal: from: 0 FT to: 0 FT
 Seal: from: 0 FT to: 0 FT

Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches

Screen Installation Method:

Fillings

Top: Bottom:

Pack:

Grain Size: Amount:

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: No

Held: 0 Documents Held: 1

Pitless Adapter Type:

Drop Pipe Type:

Length: FT Diameter: Inches

Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:

This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0235186
 Map Verified: Not Verified
 Date Report: 1994/03/02
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: FRASER, RON Drilling Company Approval No.:
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: JANSSEN, R. Well Location Identifier:
 P.O. Box Number: Mailing Address: FALUN Postal Code:
 City: Province: Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NW 17 046 27 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No
 Proposed well use:
 Domestic & Stock
 Anticipated Water
 Requirements/day
 200 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd): 1993/10/30 11:00 AM
 Test Method: Bailer
 Non pumping 78 FT
 static level:

4. Formation Log

Depth from ground level (feet)
 Lithology Description

5. Well Completion

Date Started(yyyy/mm/dd): 1993/10/29 Date Completed (yyyy/mm/dd): 1993/10/30
 Well Depth: 135 FT Borehole Diameter: 0 Inches
 Casing Type: Galvanized Steel Liner Type:
 Size OD: 4.5 Inches Size OD: 0 Inches
 Wall Thickness: 0.156 Inches Wall Thickness: 0 Inches
 Bottom at: 120 FT Top: 0 FT Bottom: 0 FT
 Perforations from: 0 FT to: 0 FT Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 Perforated by:
 Seal: Driven from: 0 FT to: 120 FT
 Seal: from: 0 FT to: 0 FT
 Seal: from: 0 FT to: 0 FT
 Screen Type: Screen ID: 0 Inches Slot Size: 0 Inches
 from: 0 FT to: 0 FT
 Screen Type: Screen ID: 0 Inches Slot Size: 0 Inches
 from: 0 FT to: 0 FT
 Screen Installation Method:
 Fittings Top: Bottom:
 Pack: Amount:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type: Length: 112 FT Diameter: 1 Inches
 Comments:

Rate of water removal: 2 Gallons/Min
 Depth of pump intake: 118 FT
 Water level at end of pumping: 115 FT
 Distance from top of casing to ground level: Inches

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes:Sec Recovery
 115 90:00
 115 105:00
 115 120:00

Total Drawdown: 37 FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 2 Gallons/Min
 Recommended pump intake: 118 FT

Type Pump Installed
 Pump Type: SUB
 Pump Model:
 H.P.: .5
 Any further pump test information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: 3432
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



ALBERTA ENVIRONMENT CHEMICAL ANALYSIS REPORT

WELL NAME: WATT, LLOYD
LOCATION: LSD SE SEC 17 TWP 046 RG 27 M 4
WELL DEPTH: 150
AQUIFER:
SAMPLING DATE: TIME: 0

WELL ID No: 0132761
SAMPLE No: 7178-W
WATER LEVEL: -9
LABORATORY: VG
PRINT DATE: 11/26/2004

FIELD:	MG/L	FIELD:	MG/L
BICARBONATE	-9	CARBONATE	-9
CHLORIDE	-9	CONDUCTIVITY	-9
DISSOLVED OXYGEN	-9	EH	-9
IRON	-9	MANGANESE	-9
PH	-9	SULPHATE	-9
S2	-9	TEMPERATURE°C	-9
TOTAL ALKALINITY	-9	TOTAL HARDNESS	-9
LABORATORY: Analysis Date: 7/23/1982			
COD	-9	CONDUCTIVITY	972
DIC	-9	FLUORIDE	0.11
ION BALANCE	0.98	PH	8.3
SAR	-9	SiO2	8.8
TOTAL ALKALINITY	495	TC	-9
TDS	587	TN	-9
DOC	-9		
AMMONIUM-N	-9	BICARBONATE	603.8024
CALCIUM	18.962	CARBONATE	-9
CHLORIDE	1.0011*	MAGNESIUM	6.004608
NITRATE-N	-9	NITRITE-N	0.0504*
PHOSPHATE	-9	POTASSIUM	1.71825
SODIUM	212.0002	SULPHATE	49.968
NO ₂ + NO ₃	0.0144*	TOTAL HARDNESS	72
ALUMINUM	-9	ARSENIC	-9
BARIUM	-9	BERYLIUM	-9
CADMIUM	-9	CHROMIUM	-9
COBALT	-9	COPPER	-9
IRON	0.38	LEAD	-9
MANGANESE	-9	MERCURY	-9
MOLYBDENUM	-9	NICKEL	-9
SELENIUM	-9	STRONTIUM	-9
VANADIUM	-9	ZINC	-9
HYDROCARBONS	-9	PESTICIDES	-9
PHENOLICS	-9	OTHER 3	0

Remarks: SAMPLED FROM TAP.

-9 indicates that no analysis was done for this parameter

*Indicates concentrations less than.

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total.

EH - Oxidation-Reduction Potential
DIC - Dissolved Inorganic Carbon
DOC - Dissolved Organic Carbon
TDS - Total Dissolved Solids

SAR - Sodium Adsorption Ratio
COD - Chemical Oxygen Demand
TN - Total Particulate Nitrogen
TC - Total Particulate Carbon

NOTE: This data may not be fully checked.

The Province disclaims all responsibility for its accuracy



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0132762
 Map Verified: Map
 Date Report: 1984/12/06
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: FRASER, RON
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: WOLLIN, DALE
 P.O. Box Number: Mailing Address: FALUN Postal Code:
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SE 17 046 27 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: How Obtain:
 FT Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No

Proposed well use:
 Stock
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd):
 1984/11/16 11:00 AM

Test Method: Bailer

Non pumping 20 FT

static level:

Rate of water 10

removal: Gallons/Min

Depth of 22 FT

pump intake:

Water level at 22 FT

end of

pumping:

Distance from top of 0 Inches

casing to ground

level:

Depth To water level (feet)

Elapsed Time

Drawdown Minutes: Sec Recovery

Total Drawdown: 2 FT

If water removal was less than 2 hr

duration, reason why:

Recommended pumping rate: 10

Gallons/Min

Recommended pump intake: 40 FT

Type Pump Installed

Pump Type:

Pump Model:

H.P.:

Any further pumptest information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 60 Clay
 62 Sandstone
 108 Shale
 109 Coal
 115 Shale
 140 Sandy Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1984/11/15
 Date Completed(yyyy/mm/dd): 1984/11/16
 Well Depth: 140 FT Borehole Diameter: 0 Inches
 Casing Type: Steel Liner Type:
 Size OD: 4.5 Inches Size OD: 0 Inches
 Wall Thickness: 0 Inches Wall Thickness: 0 Inches
 Bottom at: 105 FT Top: 0 FT Bottom: 0 FT

Perforations from: 0 FT to: 0 FT Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches

Perforated by:

Seal: Driven to: 0 FT

Seal: from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Screen Type: Screen ID: 0 Inches

from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Type: Screen ID: 0 Inches

from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Installation Method:

Fittings

Top: Bottom:

Pack: Amount:

Grain Size: Amount:

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: No

Held: 0 Documents Held: 1

Pileless Adapter Type:

Drop Pipe Type: Diameter: Inches

Length: FT

Comments:

DRILLER REPORTS MED-HARD WATER

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:
 This well was constructed in accordance with the Water
 Well regulation of the Alberta Environmental Protection &
 Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0151918
Map Verified: Map
Date Report: 1990/01/02
Received:
Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: **WARNKE DRILLING LTD.** Drilling Company Approval No.: **119799**
Mailing Address: **RR 3** City or Town: **WETASKIWIN AB CA** Postal Code: **T9A 1X1**
Well Owner's Name: **WATT, LLOYD** Well Location Identifier:
P.O. Box Number: Mailing Address: **RR 1, WETASKIWIN** Postal Code:
City: Province: Country:

2. Well Location

1/4 or Sec Twp Rge West of
LSD M
SE 17 046 27 4

Location in Quarter
0 FT from Boundary
0 FT from Boundary

Lot Block Plan

Well Elev: FT How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
Reclaimed Well
Date Reclaimed(yyyy/mm/dd): Materials Used:
Method of Drilling: Rotary
Flowing Well: No Rate: Gallons
Gas Present: Oil Present:

Proposed well use:
Domestic
Anticipated Water
Requirements/day
0 Gallons

6. Well Yield

Test Date Start Time:
(yyyy/mm/dd):
1989/12/22 11:00 AM

Test Method: Pump
Non pumping 20 FT
static level:

Rate of water removal: 10 Gallons/Min

Depth of pump intake: 70 FT

Water level at end of pumping: 50 FT

Distance from top of casing to ground level: inches

Depth To water level (feet)
Elapsed Time

Drawdown Minutes: Sec Recovery
Total Drawdown: 30 FT

If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 0 Gallons/Min

Recommended pump intake: 0 FT

Type Pump Installed

Pump Type:

Pump Model:

H.P.:

Any further pump test information?

4. Formation Log

Depth from ground level (feet) Lithology Description
25 Brown Clay
35 Blue Clay
75 Gray Shale
85 Green Shale
95 Sandy Shale & Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1989/12/20 Date Completed(yyyy/mm/dd): 1989/12/22
Well Depth: 95 FT Borehole Diameter: 0 Inches
Casing Type: Steel Liner Type:
Size OD: 4.5 Inches Size OD: 0 Inches
Wall Thickness: 0.156 Inches Wall Thickness: 0 Inches
Bottom at: 80 FT Top: 0 FT Bottom: 0 FT

Perforations from: 0 FT to: 0 FT Perforations Size: 0 Inches x 0 Inches
from: 0 FT to: 0 FT 0 Inches x 0 Inches
from: 0 FT to: 0 FT 0 Inches x 0 Inches

Perforated by:

Seal: Driven from: 80 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Screen Type: Screen ID: 0 Inches
from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Type: Screen ID: 0 Inches
from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Installation Method:

Fittings Top: Bottom:

Pack: Grain Size: Amount: 0

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: No
Held: 1 Documents Held: 2

Pitless Adapter Type:

Drop Pipe Type: Length: FT Diameter: Inches

Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
Certification No.: 3503

This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.

Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0160598
 Map Verified: Not Verified
 Date Report: 1991/08/19
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: UNKNOWN DRILLER
 Drilling Company Approval No.: 99999
 Mailing Address: UNKNOWN City or Town: UNKNOWN AB CA Postal Code:
 Well Owner's Name: BRITTAIN, BONNIE/KERRY Well Location Identifier:
 P.O. Box Number: 8 Mailing Address: FALUN Postal Code: T0C 1H0
 City: Province: Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SE 17 046 27 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: Chemistry
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Not Applicable
 Flowing Well: No Rate: Gallons
 Gas Present: Oil Present:

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd):

Test Method:
 Non pumping FT
 static level:

Rate of water Gallons/Min
 removal:

Depth of FT
 pump intake:

Water level at FT
 end of

pumping:
 Distance from Inches
 top of casing
 to ground
 level:

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes:Sec Recovery

Total Drawdown: FT

If water removal was less than 2 hr
 duration, reason why:

Recommended pumping rate:
 Gallons/Min

Recommended pump intake: FT

Type pump installed
 Pump type:
 Pump model:
 H.P.:
 Any further pumptest information?

4. Formation Log

Depth
 from
 ground
 level
 (feet) Lithology Description

5. Well Completion

Date Started(yyyy/mm/dd): Date Completed (yyyy/mm/dd):

Well Depth: 150 FT Borehole Diameter: 0 Inches

Casing Type: Liner Type:

Size OD: 0 Inches Size OD: 0 Inches

Wall Thickness: 0 Inches Wall Thickness: 0 Inches

Bottom at: 0 FT Top: 0 FT Bottom: 0 FT

Perforations Perforations Size:
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches

Perforated by:

Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT

Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Installation Method:

Fittings
 Top: Bottom:

Pack:
 Grain Size: Amount: 0

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: No

Held: 1 Documents Held: 1

Pitless Adapter Type:

Drop Pipe Type: Diameter:

Length: Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:
 This well was constructed in accordance with the Water
 Well regulation of the Alberta Environmental Protection &
 Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0132765
 Map Verified: Map
 Date Report
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: DOUBLE H DRLG
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: SEIDL, ART
 P.O. Box Number: Mailing Address: Postal Code:
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SW 17 046 27 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: 2980 FT
 How Obtain: Estimated

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No

Proposed well use:
 Stock
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd): 1976/05/18 11:00 AM
 Test Method: Bailer
 Non pumping 84 FT
 static level:

Rate of water removal: 4 Gallons/Min

Depth of pump intake: 90 FT

Water level at end of pumping: FT
 Distance from top of casing to ground level: Inches

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 0 FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 0 Gallons/Min
 Recommended pump intake: 100 FT

Type Pump Installed
 Pump Type:
 Pump Model:
 H.P.:

Any further pump test information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 30 Clay & Rocks
 40 Sand
 50 Shattered Shale
 55 Sandstone
 80 Shale
 90 Sandstone
 105 Brown Shale
 110 Sandy Shale & Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1976/05/13
 Date Completed(yyyy/mm/dd): 1976/05/18
 Well Depth: 110 FT Borehole Diameter: 0 Inches
 Casing Type: Galvanized Steel Liner Type:
 Size OD: 4.5 Inches Size OD: 0 Inches
 Wall Thickness: 0 Inches Wall Thickness: 0 Inches
 Bottom at: 84 FT Top: 0 FT Bottom: 0 FT
 Perforations from: 0 FT to: 0 FT Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 Perforated by:

Seal: from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Screen Type: from: 0 FT to: 0 FT Screen ID: 0 Inches Slot Size: 0 Inches

Screen Type: from: 0 FT to: 0 FT Screen ID: 0 Inches Slot Size: 0 Inches

Screen Installation Method:

Fittings Top: Bottom:

Pack: Grain Size: Amount:

Geophysical Log Taken:
 Retained on Files:

Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1

Pitless Adapter Type:
 Drop Pipe Type:
 Length: FT Diameter: Inches

Comments:
 DRILLER REPORTS SOFT WATER

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day

Chemical Analysis Report


**ALBERTA ENVIRONMENT
CHEMICAL ANALYSIS REPORT**

WELL NAME: SEIDL, ART
 LOCATION: LSD SW SEC 17 TWP 046 RG 27 M 4
 WELL DEPTH: 105
 AQUIFER:
 SAMPLING DATE: 9/19/1979 TIME: 0

WELL ID No:0132766
 SAMPLE No: 10989-W
 WATER LEVEL: -9
 LABORATORY: AE
 PRINT DATE: 11/26/2004

	MG/L	FIELD:	MG/L
BICARBONATE	-9	CARBONATE	-9
CHLORIDE	-9	CONDUCTIVITY	-9
DISSOLVED OXYGEN	-9	EH	-9
IRON	-9	MANGANESE	-9
PH	-9	SULPHATE	-9
S2	-9	TEMPERATURE°C	-9
TOTAL ALKALINITY	-9	TOTAL HARDNESS	-9
LABORATORY: Analysis Date: 10/10/1979			
COD	-9	CONDUCTIVITY	952
DIC	-9	FLUORIDE	0.1
ION BALANCE	0.96	PH	8.1
SAR	-9	SIO2	11.7
TOTAL ALKALINITY	479	TC	-9
TDS	578	TN	-9
DOC	-9		
AMMONIUM-N	-9	BICARBONATE	583.8066
CALCIUM	33.932	CARBONATE	-9
CHLORIDE	1.0011*	MAGNESIUM	1.000768*
NITRATE-N	-9	NITRITE-N	0.0504*
PHOSPHATE	-9	POTASSIUM	66.676
SODIUM	172.9991	SULPHATE	65.9568
NO ₂ + NO ₃	0.0144*	TOTAL HARDNESS	146
ALUMINUM	-9	ARSENIC	-9
BARIUM	-9	BERYLIUM	-9
CADMIUM	-9	CHROMIUM	-9
COBALT	-9	COPPER	-9
IRON	0.08	LEAD	-9
MANGANESE	-9	MERCURY	-9
MOLYBDENUM	-9	NICKEL	-9
SELENIUM	-9	STRONTIUM	-9
VANADIUM	-9	ZINC	-9
HYDROCARBONS	-9	PESTICIDES	-9
PHENOLICS	-9	OTHER 3	0

Remarks: SAMPLED FROM TAP.

-9 indicates that no analysis was done for this parameter

*Indicates concentrations less than.

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total.

EH - Oxidation-Reduction Potential
 DIC - Dissolved Inorganic Carbon
 DOC - Dissolved Organic Carbon
 TDS - Total Dissolved Solids

SAR - Sodium Adsorption Ratio
 COD - Chemical Oxygen Demand
 TN - Total Particulate Nitrogen
 TC - Total Particulate Carbon

NOTE: This data may not be fully checked.

The Province disclaims all responsibility for its accuracy



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0151862
 Map Verified: Map
 Date Report: 1990/07/03
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information			2. Well Location		
Company Name: VINO'S WATER WELL DRILLING		Drilling Company Approval No.:		1/4 or Sec Twp Rge West of LSD M	
Mailing Address:		City or Town:		NE 18 046 27 4	
Well Owner's Name: KLEIN, HENRY		Well Location Identifier:		Location in Quarter: 0 FT from Boundary	
P.O. Box Number:		Mailing Address: RR 1, FALUN		0 FT from Boundary	
City:		Province:		Lot Block Plan	
Country:				Well Elev: FT	
				How Obtain: Not Obtain	
3. Drilling Information			6. Well Yield		
Type of Work: New Well Reclaimed Well		Proposed well use: Domestic		Test Date (yyyy/mm/dd): 1990/06/12	
Date Reclaimed(yyyy/mm/dd):		Materials Used:		Start Time: 11:00 AM	
Method of Drilling: Rotary		Requirements/day: 0 Gallons		Test Method: Bailer	
Flowing Well: No		Rate: Gallons		Non pumping static level: 18 FT	
Gas Present:		Oil Present:		Rate of water removal: 12 Gallons/Min	
4. Formation Log		5. Well Completion		Depth of pump intake: 55 FT	
Depth from ground level (feet)		Date Started(yyyy/mm/dd): 1990/06/11		Water level at end of pumping: 0 FT	
Lithology Description		Date Completed(yyyy/mm/dd): 1990/06/12		Distance from top of casing to ground level: inches	
20 Clayey Gravel		Well Depth: 135 FT		Depth To water level (feet)	
45 Coarse Grained Sand		Casing Type: Plastic		Elapsed Time	
70 Blue Sand		Size OD: 5 Inches		Drawdown Minutes: Sec Recovery	
120 Gray Sand		Wall Thickness: 0.5 Inches		Total Drawdown: 0 FT	
122 Sandstone		Bottom at: 120 FT		If water removal was less than 2 hr duration, reason why:	
135 Water Bearing Sand		Top: 0 FT Bottom: 0 FT		Recommended pumping rate: 0 Gallons/Min	
		Perforations from: 0 FT to: 0 FT		Recommended pump intake: 100 FT	
		Perforations Size: 0 Inches x 0 Inches		Type Pump Installed	
		Perforations Size: 0 Inches x 0 Inches		Pump Type: SUB	
		Perforated by:		Pump Model:	
		Seal: Driven from: 120 FT to: 0 FT		H.P.:	
		Seal: from: 0 FT to: 0 FT		Any further pump test information?	
		Seal: from: 0 FT to: 0 FT			
		Screen Type: from: 0 FT to: 0 FT			
		Screen ID: 0 Inches Slot Size: 0 Inches			
		Screen Type: from: 0 FT to: 0 FT			
		Screen ID: 0 Inches Slot Size: 0 Inches			
		Screen Installation Method:			
		Fittings Top: Bottom:			
		Pack: Grain Size: Amount: 0			
		Geophysical Log Taken: Retained on Files:			
		Additional Test and/or Pump Data			
		Chemistries taken By Driller: No			
		Held: 0 Documents Held: 1			
		Pitless Adapter Type:			
		Drop Pipe Type: Length: FT Diameter: Inches			
		Comments:			
7. Contractor Certification					
Driller's Name: UNKNOWN DRILLER					
Certification No.: 627					
This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.					
Signature Yr Mo Day					



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0156115
 Map Verified: Not Verified
 Date Report: 1990/01/10
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: UNKNOWN DRILLER
 Mailing Address: UNKNOWN
 Well Owner's Name: MEYER, WAYNE
 P.O. Box Number:
 City:
 City or Town: UNKNOWN AB CA
 Well Location Identifier:
 Mailing Address: RR1 WETASKIWIN
 Province:
 Drilling Company Approval No.: 99999
 Postal Code:
 Postal Code: T9A 1W8
 Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NW 18 046 27 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan
 Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: Chemistry
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Not Applicable
 Flowing Well: No
 Gas Present:
 Proposed well use: Domestic
 Anticipated Water Requirements/day: 0 Gallons
 Materials Used:
 Rate: Gallons
 Oil Present:

6. Well Yield

Test Date (yyyy/mm/dd):
 Start Time:
 Test Method:
 Non pumping static level: FT
 Rate of water removal: Gallons/Min
 Depth of pump intake: FT
 Water level at end of pumping: FT
 Distance from top of casing to ground level: Inches
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes:Sec Recovery
 Total Drawdown: FT
 If water removal was less than 2 hr duration, reason why:
 Recommended pumping rate: Gallons/Min
 Recommended pump intake: FT
 Type pump installed
 Pump type:
 Pump model:
 H.P.:
 Any further pumptest information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description

5. Well Completion

Date Started(yyyy/mm/dd):
 Date Completed(yyyy/mm/dd):
 Well Depth: 0 FT
 Borehole Diameter: 0 Inches
 Casing Type:
 Liner Type:
 Size OD: 0 Inches
 Size OD: 0 Inches
 Wall Thickness: 0 Inches
 Wall Thickness: 0 Inches
 Bottom at: 0 FT
 Top: 0 FT Bottom: 0 FT
 Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 Perforated by:
 Seal: from: 0 FT to: 0 FT
 Seal: from: 0 FT to: 0 FT
 Seal: from: 0 FT to: 0 FT
 Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount: 0
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 1 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: Diameter:
 Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0132771
 Map Verified: Map
 Date Report: 1983/07/07
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: UNKNOWN DRILLER
 Mailing Address: UNKNOWN
 Well Owner's Name: SNOW, JOHN B.
 P.O. Box Number:
 City:

Drilling Company Approval No.: 99999
 City or Town: UNKNOWN AB CA
 Well Location Identifier:
 Mailing Address: RR1, WETASKIWIN
 Province:

Postal Code: T9A 1W8
 Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SW 18 046 27 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: Chemistry
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Drilled
 Flowing Well: No
 Gas Present: No

Proposed well use: Domestic
 Anticipated Water Requirements/day
 0 Gallons

Materials Used:
 Rate: Gallons
 Oil Present: No

6. Well Yield

Test Date (yyyy/mm/dd):
 Start Time:

Test Method:
 Non pumping FT
 static level:

Rate of water removal: Gallons/Min

Depth of pump intake: FT

Water level at end of pumping: FT
 Distance from top of casing to ground level: Inches

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery

Total Drawdown: FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: Gallons/Min
 Recommended pump intake: FT

Type pump installed
 Pump type:
 Pump model:
 H.P.:
 Any further pump test information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description

5. Well Completion

Date Started(yyyy/mm/dd):
 Date Completed(yyyy/mm/dd):
 Well Depth: 100 FT
 Borehole Diameter: 0 Inches
 Casing Type:
 Size OD: 0 Inches
 Wall Thickness: 0 Inches
 Bottom at: 0 FT
 Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 Perforated by:
 Seal: from: 0 FT to: 0 FT
 Seal: from: 0 FT to: 0 FT
 Seal: from: 0 FT to: 0 FT
 Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 1 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: Diameter:
 Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0132772
 Map Verified: Map
 Date Report: 1984/12/06
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: FRASER, RON
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: RADKE, B.
 P.O. Box Number: Mailing Address: FALUN Postal Code:
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SW 18 046 27 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No Rate: Gallons
 Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): 1984/06/28
 Start Time: 11:00 AM
 Test Method: Bailer
 Non pumping static level: 39 FT

Rate of water removal: 8 Gallons/Min

Depth of pump intake: 51 FT

Water level at end of pumping: 51 FT

Distance from top of casing to ground level: inches

Depth To water level (feet)
 Elapsed Time

Drawdown Minutes: Sec Recovery
 Total Drawdown: 12 FT

If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 8 Gallons/Min

Recommended pump intake: 60 FT

Type Pump Installed
 Pump Type:
 Pump Model:
 H.P.:
 Any further pump test information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 40 Clay
 43 Sandstone
 72 Fractured Shale
 90 Blue Shale
 105 Sandy Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1984/06/27
 Date Completed(yyyy/mm/dd): 1984/06/28
 Well Depth: 105 FT
 Borehole Diameter: 0 Inches
 Casing Type: Galvanized Steel
 Liner Type:
 Size OD: 4.5 Inches
 Size OD: 0 Inches
 Wall Thickness: 0 Inches
 Wall Thickness: 0 Inches
 Bottom at: 80 FT
 Top: 0 FT Bottom: 0 FT

Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches

Perforated by:

Seal: Driven from: 0 FT to: 80 FT
 Seal: from: 0 FT to: 0 FT
 Seal: from: 0 FT to: 0 FT

Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches

Screen Installation Method:

Fillings Top: Bottom:

Pack: Grain Size: Amount:

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1

Pitless Adapter Type:

Drop Pipe Type: Length: FT Diameter: Inches

Comments:

DRILLER REPORTS SOFT WATER

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:

This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.

Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0258867
 Map Verified: Not Verified
 Date Report: 1995/09/18
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: VINO'S WATER WELL DRILLING
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: KRAUSE, ROGER
 P.O. Box Number: Mailing Address: RR1, WETASKIWIN
 City: Province: Country: T9A 1W8

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 10 20 046 27 4

Location in Quarter
 30 FT from S Boundary
 1500 FT from E Boundary

Lot Block Plan

Well Elev: How Obtain:
 FT Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No

Proposed well use:
 Domestic & Stock
 Anticipated Water
 Requirements/day
 1000 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd): 1995/08/30 11:00 AM

Test Method: Bailer & Pump

Non pumping 85 FT

static level:

Rate of water removal: 10 Gallons/Min

Depth of pump intake: 0 FT

Water level at end of pumping: 85 FT

Distance from top of casing to ground level: inches

Depth To water level (feet)

Elapsed Time

Drawdown Minutes: Sec Recovery

Total Drawdown: 85 FT

If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 0 Gallons/Min

Recommended pump intake: 120 FT

Type Pump Installed

Pump Type:

Pump Model:

H.P.:

Any further pump test information?

4. Formation Log

Depth from ground level (feet) Lithology Description
 25 Sand & Gravel
 80 Blue Gray Sand
 100 Fine Grained Sand
 135 Blue Shale
 155 Gray Shale
 160 Sandstone
 170 Water Bearing Sand

5. Well Completion

Date Started(yyyy/mm/dd): 1995/08/27
 Date Completed(yyyy/mm/dd): 1995/08/30
 Well Depth: 170 FT Borehole Diameter: 0 Inches
 Casing Type: Plastic Liner Type:
 Size OD: 5 Inches Size OD: 0 Inches
 Wall Thickness: 0.5 Inches Wall Thickness: 0 Inches

Bottom at: 135 FT Top: 0 FT Bottom: 0 FT

Perforations from: 0 FT to: 0 FT Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches

Perforated by:

Seal: Driven from: 0 FT to: 135 FT

Seal: from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Screen Type: Screen ID: 0 Inches

from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Type: Screen ID: 0 Inches

from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Installation Method:

Fittings

Top: Bottom:

Pack:

Grain Size: Amount:

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: No

Held: 0 Documents Held: 1

Pitless Adapter Type:

Drop Pipe Type: Diameter: Inches

Length: FT

Comments:

DRILLER REPORTS PUMPED WELL FOR 24 HRS NO

DRAW DOWN.

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: VC7989

This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.

Signature Yr Mo Day



ALBERTA ENVIRONMENT CHEMICAL ANALYSIS REPORT

WELL NAME: ZIELKE, BRIAN
LOCATION: LSD NE SEC 20 TWP 046 RG 27 M 4
WELL DEPTH: 200
AQUIFER:
SAMPLING DATE: TIME: 0

WELL ID No: 0132782
SAMPLE No: 12395-W
WATER LEVEL: -9
LABORATORY: AE
PRINT DATE: 11/26/2004

FIELD:	MG/L	FIELD:	MG/L
BICARBONATE	-9	CARBONATE	-9
CHLORIDE	-9	CONDUCTIVITY	-9
DISSOLVED OXYGEN	-9	EH	-9
IRON	-9	MANGANESE	-9
PH	-9	SULPHATE	-9
S2	-9	TEMPERATURE°C	-9
TOTAL ALKALINITY	-9	TOTAL HARDNESS	-9

LABORATORY: Analysis Date: 11/22/1977

COD	-9	CONDUCTIVITY	1380
DIC	-9	FLUORIDE	0.87
ION BALANCE	0.99	PH	8.4
SAR	-9	SIO2	8.7
TOTAL ALKALINITY	444	TC	-9
TDS	869	TN	-9
DOC	-9		

AMMONIUM-N	-9	BICARBONATE	539.8256
CALCIUM	14.97	CARBONATE	5.001*
CHLORIDE	6.01015	MAGNESIUM	3.002304
NITRATE-N	-9	NITRITE-N	0.0994*
PHOSPHATE	-9	POTASSIUM	1.71825
SODIUM	307.9999	SULPHATE	267.8304
NO ₂ + NO ₃	0.0284*	TOTAL HARDNESS	52

ALUMINUM	-9	ARSENIC	-9
BARIUM	-9	BERYLIUM	-9
CADMIUM	-9	CHROMIUM	-9
COBALT	-9	COPPER	-9
IRON	0.05*	LEAD	-9
MANGANESE	-9	MERCURY	-9
MOLYBDENUM	-9	NICKEL	-9
SELENIUM	-9	STRONTIUM	-9
VANADIUM	-9	ZINC	-9

HYDROCARBONS	-9	PESTICIDES	-9
PHENOLICS	-9	OTHER 3	0

Remarks: SAMPLED FROM TAP.

-9 indicates that no analysis was done for this parameter

*Indicates concentrations less than.

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total.

EH - Oxidation-Reduction Potential

DIC - Dissolved Inorganic Carbon

DOC - Dissolved Organic Carbon

TDS - Total Dissolved Solids

SAR - Sodium Adsorption Ratio

COD - Chemical Oxygen Demand

TN - Total Particulate Nitrogen

TC - Total Particulate Carbon

NOTE: This data may not be fully checked.

The Province disclaims all responsibility for its accuracy



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0132779
 Map Verified: Map
 Date Report
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: WARNKE DRILLING LTD.
 Mailing Address: RR 3
 Well Owner's Name: HARDEN, D.J.
 P.O. Box Number:
 City:

City or Town: WETASKIWIN AB CA
 Well Location Identifier:
 Mailing Address: RR1, FALUN
 Province:

Drilling Company Approval No.: 119799
 Postal Code:
 Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NW 20 046 27 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan
 Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

Materials Used:
 Rate: Gallons
 Oil Present: No

6. Well Yield

Test Date (yyyy/mm/dd): 1972/11/10
 Start Time: 11:00 AM
 Test Method: Unknown
 Non pumping static level: 77 FT
 Rate of water removal: 5 Gallons/Min
 Depth of pump intake: 94 FT
 Water level at end of pumping: 94 FT
 Distance from top of casing to ground level: inches
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 17 FT
 If water removal was less than 2 hr duration, reason why:

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 30 Clay
 100 Sandy Clay & Sand
 122 Gray Shale
 140 Sandrock

5. Well Completion

Date Started(yyyy/mm/dd):
 Date Completed (yyyy/mm/dd): 1972/11/10
 Well Depth: 140 FT Borehole Diameter: 0 Inches
 Casing Type: Galvanized Steel Liner Type:
 Size OD: 4.5 Inches Size OD: 0 Inches
 Wall Thickness: 0 Inches Wall Thickness: 0 Inches
 Bottom at: 118 FT Top: 0 FT Bottom: 0 FT
 Perforations from: 0 FT to: 0 FT Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 Perforated by:
 Seal: Driven to: 0 FT
 Seal: from: 0 FT to: 0 FT
 Seal: from: 0 FT to: 0 FT
 Screen Type: from: 0 FT to: 0 FT Screen ID: 0 Inches Slot Size: 0 Inches
 Screen Type: from: 0 FT to: 0 FT Screen ID: 0 Inches Slot Size: 0 Inches
 Screen Installation Method:
 Fittings Top: Bottom:
 Pack: Amount:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type: Length: FT Diameter: Inches
 Comments:
 DRILLER REPORTS SOFT WATER

Recommended pumping rate: 0 Gallons/Min
 Recommended pump intake: 0 FT
 Type Pump Installed
 Pump Type:
 Pump Model:
 H.P.:
 Any further pumplest information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0132781
 Map Verified: Map
 Date Report: 1986/02/28
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: UNKNOWN DRILLER
 Mailing Address: UNKNOWN
 Well Owner's Name: HARDEN, DUANE
 P.O. Box Number:
 City:
 Drilling Company Approval No.: 99999
 Postal Code:
 City or Town: UNKNOWN AB CA
 Well Location Identifier:
 Mailing Address: RR1, FALUN
 Postal Code: T0C 1H0
 Province:
 Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NW 20 046 27 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: Chemistry
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Unknown
 Flowing Well: No
 Gas Present: No
 Proposed well use: Domestic
 Anticipated Water Requirements/day: 0 Gallons
 Materials Used:
 Rate: Gallons
 Oil Present: No

6. Well Yield

Test Date (yyyy/mm/dd):
 Start Time:

Test Method:

Non pumping FT

static level:

Rate of water removal: Gallons/Min

Depth of pump intake: FT

Water level at end of pumping: FT

Distance from top of casing to ground level: Inches

Depth To water level (feet)

Elapsed Time

Drawdown Minutes:Sec Recovery

Total Drawdown: FT

If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: Gallons/Min

Recommended pump intake: FT

Type pump installed

Pump type:

Pump model:

H.P.:

Any further pumplest information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description

5. Well Completion

Date Started(yyyy/mm/dd):
 Date Completed(yyyy/mm/dd):

Well Depth: 30 FT Borehole Diameter: 0 Inches

Casing Type: Liner Type:

Size OD: 0 Inches Size OD: 0 Inches

Wall Thickness: 0 Inches Wall Thickness: 0 Inches

Bottom at: 0 FT Top: 0 FT Bottom: 0 FT

Perforations from: 0 FT to: 0 FT Perforations Size: 0 Inches x 0 Inches

from: 0 FT to: 0 FT 0 Inches x 0 Inches

from: 0 FT to: 0 FT 0 Inches x 0 Inches

Perforated by:

Seal: from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Screen Type: from: 0 FT to: 0 FT Screen ID: 0 Inches

Slot Size: 0 Inches

Screen Type: from: 0 FT to: 0 FT Screen ID: 0 Inches

Slot Size: 0 Inches

Screen Installation Method:

Fittings Top: Bottom:

Pack: Grain Size: Amount:

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: No

Held: 1 Documents Held: 1

Pitless Adapter Type:

Drop Pipe Type: Length: Diameter:

Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Certification No.:

This well was constructed in accordance with the Water

Well regulation of the Alberta Environmental Protection &

Enhancement Act. All information in this report is true.

Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0154425
 Map Verified: Map
 Date Report: 1991/01/25
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: FRASER, RON
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: PEZDERIC, KIRK/LORNE
 P.O. Box Number: Mailing Address: GENERAL DELIVERY, FALUN Postal Code: T0C 1H0
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SE 20 046 27 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: Rate: Gallons
 Oil Present: 0 Gallons

Proposed well use:
 Domestic & Stock
 Anticipated Water
 Requirements/day

6. Well Yield

Test Date (yyyy/mm/dd): 1990/09/25
 Start Time: 11:00 AM

Test Method: Bailor

Non pumping static level: 89 FT

Rate of water removal: 7 Gallons/Min

Depth of pump intake: 120 FT

Water level at end of pumping: 90 FT

Distance from top of casing to ground level: inches

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 1 FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 7 Gallons/Min

Recommended pump intake: 0 FT

Type Pump Installed
 Pump Type:
 Pump Model:
 H.P.:
 Any further pump test information?

4. Formation Log

Depth from ground level (feet)	Lithology Description
18	Clay & Gravel
20	Sandy Clay
86	Clay
90	Shale
94	Clay
111	Soft Shale
113	Hard Shale
132	Clay
140	Hard Shale
150	Sandy Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1990/09/24
 Date Completed(yyyy/mm/dd): 1990/09/25
 Well Depth: 150 FT
 Borehole Diameter: 0 Inches
 Casing Type: Galvanized Steel
 Liner Type:
 Size OD: 4.5 Inches
 Size OD: 0 Inches
 Wall Thickness: 0.156 Inches
 Wall Thickness: 0 Inches
 Bottom at: 132 FT
 Top: 0 FT Bottom: 0 FT
 Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches

Perforated by:

Seal: Driven from: 0 FT to: 132 FT

Seal: from: 0 FT to: 0 FT

Seal: from: 0 FT to: 0 FT

Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Installation Method:

Fillings

Top: Bottom:

Pack:

Grain Size: Amount: 0

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: No

Held: 0 Documents Held: 1

Pillless Adapter Type:

Drop Pipe Type:

Length: FT Diameter: Inches

Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: 3432

This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.

Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075152
 Map Verified: Not Verified
 Date Report: 1980/12/31
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: FLINN DRILLING LTD.
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: ROAN, FRANCIS
 P.O. Box Number: Mailing Address: PIGEON LK, HOBSEMA
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NE 24 046 28 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: 2885 FT
 How Obtain: Estimated

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No
 Rate: Gallons
 Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd): 11:00 AM

Test Method: Pump
 Non pumping
 static level: 94 FT

Rate of water
 removal: 10
 Gallons/Min

Depth of
 pump intake: 125 FT

Water level at
 end of
 pumping: 94 FT

Distance from top of
 casing to ground
 level: 94 FT

Depth To water level (feet)
 Elapsed Time

Drawdown Minutes: Sec Recovery

Total Drawdown: 31 FT

If water removal was less than 2 hr
 duration, reason why:

Recommended pumping rate: 0
 Gallons/Min

Recommended pump intake: 135
 FT

Type Pump Installed
 Pump Type: SUB

Pump Model:
 H.P.: .33

Any further pump test information?

4. Formation Log

Depth
 from
 ground
 level
 (feet)
 Lithology Description
 51 Sandy Till
 68 Gray Shale
 97 Blue Shale
 104 Gray Shale
 111 Green Shale
 117 Brown Shale
 139 Gray Shale
 142 Gray Sandstone
 159 Blue Shale
 162 Blue Sandstone
 180 Gray Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1980/11/11
 Date Completed (yyyy/mm/dd): 1980/11/11
 Well Depth: 180 FT
 Borehole Diameter: 0 Inches

Casing Type: Steel
 Liner Type: Steel
 Size OD: 5.56 Inches
 Size OD: 4.5 Inches

Wall Thickness: 0.188
 Wall Thickness: 0.188
 Inches
 Inches

Bottom at: 59 FT
 Top: 0 FT Bottom: 180
 FT

Perforations
 from: 140 FT to: 170 FT
 Perforations Size:
 0.125 Inches x 18 Inches

from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches

Perforated by: Torch

Seal: Driven
 from: 0 FT to: 59 FT

Seal:
 from: 0 FT to: 0 FT

Seal:
 from: 0 FT to: 0 FT

Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches

Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches

Screen Installation Method:

Fittings
 Top: Bottom:

Pack:
 Grain Size: Amount:

Geophysical Log Taken:
 Retained on Files:

Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1

Pitless Adapter Type:
 Drop Pipe Type:
 Length: 126 FT Diameter: 1 Inches

Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: 67

This well was constructed in accordance with the Water
 Well regulation of the Alberta Environmental Protection &
 Enhancement Act. All information in this report is true.

Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075154
 Map Verified: Not Verified
 Date Report: 1986/09/05
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: JIM'S DRILLING
 Mailing Address: RR 1
 Well Owner's Name: ROWAN, MARY
 P.O. Box Number:
 City:
 Province:
 Country:

Drilling Company Approval No.: 149180
 City or Town: MILLET AB CA
 Well Location Identifier:
 Mailing Address: HOB BEMA
 Postal Code:
 Rate: Gallons
 Oil Present: No

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NE 24 046 28 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No

Proposed well use: Domestic
 Anticipated Water Requirements/day: 0 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): 1986/02/09
 Start Time: 11:00 AM
 Test Method: Air
 Non pumping static level: 80 FT
 Rate of water removal: 10 Gallons/Min
 Depth of pump intake: 100 FT
 Water level at end of pumping: 80 FT
 Distance from top of casing to ground level: 80 FT
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 20 FT
 If water removal was less than 2 hr duration, reason why:

4. Formation Log

Depth from ground level (feet)
 Lithology Description

15	Sand
45	Clay & Rocks
62	Sand
105	Blue Clay
130	Soft Shale
150	Hard Shale
158	Hard Sandstone
180	Hard Shale
190	Hard Sandstone
205	Hard Shale
209	Hard Sandstone
220	Hard Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1986/02/05
 Date Completed(yyyy/mm/dd): 1986/02/09
 Well Depth: 220 FT
 Borehole Diameter: 0 Inches
 Casing Type: Steel
 Liner Type: Plastic
 Size OD: 5.5 Inches
 Size OD: 4.5 Inches
 Wall Thickness: 0.188 Inches
 Wall Thickness: 0 Inches
 Bottom at: 140 FT
 Top: 130 FT Bottom: 220 FT
 Perforations from: 130 FT to: 220 FT
 Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 Perforated by: Machine
 Seal: Driven
 from: 0 FT to: 140 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: 120 FT Diameter: 1 Inches
 Comments:

Recommended pumping rate: 10 Gallons/Min
 Recommended pump intake: 130 FT
 Type Pump Installed
 Pump Type: SUB
 Pump Model:
 H.P.: .5
 Any further pump test information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: VA3475
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075148
 Map Verified: Not Verified
 Date Report: 1986/09/05
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: JIM'S DRILLING
 Mailing Address: RR 1
 Well Owner's Name: BUFFALO, STELLA
 P.O. Box Number:
 City:
 Province:
 Country:
 Drilling Company Approval No.: 149180
 City or Town: MILLET AB CA
 Well Location Identifier:
 Mailing Address: MAMEO BEACH
 Postal Code:
 Rate: Gallons
 Oil Present: No

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NW 24 046 28 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No
 Proposed well use: Domestic
 Anticipated Water Requirements/day: 0 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): 1986/02/04
 Start Time: 11:00 AM
 Test Method: Air
 Non pumping static level: 60 FT

Rate of water removal: 10 Gallons/Min

Depth of pump intake: 100 FT

Water level at end of pumping: 60 FT

Distance from top of casing to ground level: 60 FT

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 40 FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 10 Gallons/Min

Recommended pump intake: 120 FT

Type Pump Installed
 Pump Type: SUB
 Pump Model:
 H.P.: .5

Any further pump test information?

4. Formation Log

Depth from ground level (feet)	Lithology Description
15	Clay & Rocks
28	Sand
45	Clay & Rocks
90	Gravel
100	Soft Shale
140	Hard Shale
143	Hard Sandstone
180	Hard Shale
185	Hard Sandstone
200	Soft Sandstone
205	Hard Shale
215	Soft Sandstone
220	Hard Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1986/01/30
 Date Completed(yyyy/mm/dd): 1986/02/04
 Well Depth: 220 FT
 Borehole Diameter: 0 Inches
 Casing Type: Steel
 Liner Type: Plastic
 Size OD: 5.56 Inches
 Size OD: 4.5 Inches
 Wall Thickness: 0.188 Inches
 Wall Thickness: 0 Inches
 Bottom at: 140 FT
 Top: 130 FT Bottom: 220 FT
 Perforations from: 130 FT to: 220 FT
 Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 Perforated by: Machine
 Seal: Driven
 from: 0 FT to: 140 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: 110 FT Diameter: 1 Inches
 Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: VA3475
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075135
 Map Verified: Not Verified
 Date Report Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: FIVELAND N
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: BOYSES, JOE
 P.O. Box Number: Mailing Address: HOBBERMA
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SE 24 046 28 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: 2800 FT
 How Obtain: Estimated

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Drilled
 Flowing Well: No
 Gas Present: No
 Rate: Gallons
 Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): 1962/10/20
 Start Time: 11:00 AM

Test Method: Pump

Non pumping static level: 65 FT

Rate of water removal: 6 Gallons/Min

Depth of pump intake: 65 FT

Water level at end of pumping: 65 FT

Distance from top of casing to ground level: 65 FT

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 0 FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 0 Gallons/Min
 Recommended pump intake: 100 FT

Type Pump Installed
 Pump Type: HAND
 Pump Model: CYLINDER
 H.P.:
 Any further pump test information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 8 Clay
 26 Yellow Sand
 94 Gray Clay & Sand
 135 Shale
 151 Sand

5. Well Completion

Date Started(yyyy/mm/dd): 1962/10/20
 Date Completed(yyyy/mm/dd): 1962/10/20
 Well Depth: 151 FT
 Borehole Diameter: 0 Inches
 Casing Type: Steel
 Liner Type:
 Size OD: 2 Inches
 Size OD: 0 Inches
 Wall Thickness: 0 Inches
 Wall Thickness: 0 Inches
 Bottom at: 110 FT
 Top: 0 FT Bottom: 0 FT

Perforations from: 0 FT to: 0 FT
 Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches

Perforated by:

Seal: Driven
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT

Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches
 Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Installation Method:

Fittings
 Top: Bottom:

Pack:
 Grain Size: Amount:

Geophysical Log Taken:
 Retained on Files:

Additional Test and/or Pump Data
 Chemistries taken By Driller: Yes
 Held: 0 Documents Held: 1

Pitless Adapter Type:
 Drop Pipe Type:
 Length: FT Diameter: 1.81 Inches

Comments:
 DRILLER REPORTS WATER SOFT & CLEAR.

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075137
 Map Verified: Not Verified
 Date Report: 1979/01/11
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: ELGIN EXPLORATION COMPANY LIMITED
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: GREEN, SAM
 P.O. Box Number: Mailing Address: PIGEON LK
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SE 24 046 28 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: 2815 FT
 How Obtain: Estimated

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd): 1978/06/01 11:00 AM

Test Method: Air

Non pumping
 static level: 20 FT

Rate of water
 removal: 12 Gallons/Min

Depth of
 pump intake: 140 FT

Water level at
 end of
 pumping: 20 FT

Distance from top of
 casing to ground
 level: Inches

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes:Sec Recovery
 Total Drawdown: 120 FT

If water removal was less than 2 hr
 duration, reason why:

Recommended pumping rate: 0
 Gallons/Min

Recommended pump intake: 87 FT

Type Pump Installed
 Pump Type: SUB
 Pump Model:
 H.P.: .5
 Any further pump test information?

4. Formation Log

Depth
 from
 ground
 level
 (feet)
 Lithology Description
 50 Clay & Rocks
 150 Shale & Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1978/06/01
 Date Completed (yyyy/mm/dd): 1978/06/01
 Well Depth: 150 FT Borehole Diameter: 0 Inches
 Casing Type: Steel Liner Type: Steel
 Size OD: 5.56 Inches Size OD: 4.5 Inches
 Wall Thickness: 0.188 Inches Wall Thickness: 0.188 Inches

Bottom at: 55 FT Top: 24 FT Bottom: 150 FT

Perforations
 from: 70 FT to: 90 FT 0 Inches x 0 Inches
 from: 110 FT to: 150 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches

Perforated by: Torch

Seal: Driven
 from: 0 FT to: 55 FT

Seal:
 from: 0 FT to: 0 FT

Seal:
 from: 0 FT to: 0 FT

Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Installation Method:

Fittings

Top: Bottom:

Pack:

Grain Size: Amount:

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: Yes

Held: 0 Documents Held: 1

Pitless Adapter Type:

Drop Pipe Type:

Length: 75 FT Diameter: 1 Inches

Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Certification No.: 2412977

This well was constructed in accordance with the Water
 Well regulation of the Alberta Environmental Protection &
 Enhancement Act. All information in this report is true.

Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075140
 Map Verified: Not Verified
 Date Report: 1987/10/23
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: JIM'S DRILLING
 Mailing Address: RR 1
 Well Owner's Name: SADDLEBACK, DALE
 P.O. Box Number:
 City:
 Drilling Company Approval No.: 149180
 City or Town: MILLET AB CA
 Well Location Identifier:
 Mailing Address: MAMEO BEACH
 Province:
 Postal Code: T0C 1Z0
 Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SE 24 046 28 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No
 Proposed well use: Domestic
 Anticipated Water Requirements/day: 0 Gallons
 Materials Used:
 Rate: Gallons
 Oil Present: No

6. Well Yield

Test Date (yyyy/mm/dd): 1987/06/12
 Start Time: 11:00 AM
 Test Method: Air
 Non pumping static level: 80 FT
 Rate of water removal: 10 Gallons/Min
 Depth of pump intake: 150 FT
 Water level at end of pumping: 80 FT
 Distance from top of casing to ground level: 80 FT
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 70 FT
 If water removal was less than 2 hr duration, reason why:

4. Formation Log

Depth from ground level (feet)	Lithology Description
20	Sand & Coal
45	Sand & Sandstone
60	Sand
85	Sandstone
150	Shale
153	Sandstone
160	Shale
165	Sandstone
184	Shale
190	Sandstone
255	Shale
300	Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1987/06/09
 Date Completed (yyyy/mm/dd): 1987/06/12
 Well Depth: 300 FT
 Borehole Diameter: 0 Inches
 Casing Type: Steel
 Liner Type: Plastic
 Size OD: 5.56 Inches
 Size OD: 4.5 Inches
 Wall Thickness: 0.244 Inches
 Wall Thickness: 0 Inches
 Bottom at: 180 FT
 Top: 175 FT Bottom: 300 FT
 Perforations from: 175 FT to: 300 FT
 Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 Perforated by:
 Seal: Driven
 from: 0 FT to: 180 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: 150 FT Diameter: 1 Inches
 Comments:

Recommended pumping rate: 10 Gallons/Min
 Recommended pump intake: 160 FT

Type Pump Installed
 Pump Type: SUB
 Pump Model:
 H.P.: .5
 Any further pump test information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: VA2925
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0168953
 Map Verified: Not Verified
 Date Report: 1992/10/09
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: SCHMIDT DRILLING LTD.
 Mailing Address: RR 2, SITE 16, BOX 16
 Well Owner's Name: LITTLECHILD, GARY/ERMINSKIN IR
 P.O. Box Number:
 City:

City or Town: PONOKA ALBERTA CANADA
 Well Location Identifier:
 Mailing Address: HOBBEWA
 Province:

Drilling Company Approval No.: 119156
 Postal Code: T4J 1R2
 Postal Code: T0C 1N0
 Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SE 24 046 28 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Well: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No

Proposed well use: Unknown
 Anticipated Water Requirements/day: 0 Gallons
 Materials Used:
 Rate: Gallons
 Oil Present: No

6. Well Yield

Test Date (yyyy/mm/dd): 1992/08/27
 Start Time: 11:00 AM
 Test Method: Air
 Non pumping static level: 40 FT
 Rate of water removal: 12 Gallons/Min

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 18 Brown Till & Clay
 85 Till & Clay
 89 Green Shale
 103 Gray Sandstone
 140 Gray Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1992/08/27
 Date Completed(yyyy/mm/dd): 1992/08/27
 Well Depth: 140 FT
 Borehole Diameter: 0 Inches
 Casing Type: Steel
 Liner Type: Plastic
 Size OD: 5.56 Inches
 Size OD: 4.5 Inches
 Wall Thickness: 0.188 Inches
 Wall Thickness: 0.237 Inches
 Bottom at: 103 FT
 Top: 100 FT Bottom: 140 FT
 Perforations from: 100 FT to: 140 FT
 Perforations Size: 0.25 Inches x 7 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 Perforated by: Saw
 Seal: Driven from: 0 FT to: 103 FT
 Seal: from: 0 FT to: 0 FT
 Seal: from: 0 FT to: 0 FT
 Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fittings Top: Bottom:
 Pack: Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: FT Diameter: Inches
 Comments:

Depth of pump intake: 140 FT
 Water level at end of pumping: 140 FT
 Distance from top of casing to ground level: inches

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 100 FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 10 Gallons/Min
 Recommended pump intake: 100 FT

Type Pump Installed
 Pump Type: SUB
 Pump Model:
 H.P.:
 Any further pump test information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: VB3287
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075142
 Map Verified: Not Verified
 Date Report: 1987/06/04
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: JIM'S DRILLING
 Mailing Address: RR 1
 Well Owner's Name: LIGHTNING, PHILIP
 P.O. Box Number:
 City:
 Province:
 Country:

Drilling Company Approval No.: 149180
 City or Town: MILLET AB CA
 Postal Code: T0C 1Z0
 Well Location Identifier:
 Mailing Address: MAMEO BEACH
 Postal Code:
 Province:
 Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SW 24 046 28 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No

Proposed well use: Domestic
 Anticipated Water Requirements/day
 0 Gallons

Materials Used:
 Rate: Gallons
 Oil Present: No

6. Well Yield

Test Date (yyyy/mm/dd): 1987/05/07
 Start Time: 11:00 AM
 Test Method: Air
 Non pumping static level: 45 FT
 Rate of water removal: 10 Gallons/Min
 Depth of pump intake: 85 FT
 Water level at end of pumping: 45 FT
 Distance from top of casing to ground level: 45 FT
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 45 FT
 If water removal was less than 2 hr duration, reason why:

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 97 Clay & Sand
 130 Sandstone
 145 Shale
 155 Sandstone
 165 Shale
 180 Sandstone
 242 Shale
 260 Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1987/05/03
 Date Completed(yyyy/mm/dd): 1987/05/07
 Well Depth: 260 FT
 Borehole Diameter: 0 Inches
 Casing Type: Steel
 Liner Type: Plastic
 Size OD: 5.56 Inches
 Size OD: 0 Inches
 Wall Thickness: 0.244 Inches
 Wall Thickness: 0 Inches
 Bottom at: 150 FT
 Top: 140 FT Bottom: 260 FT
 Perforations from: 150 FT to: 260 FT
 Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 Perforated by: Machine
 Seal: Driven
 from: 0 FT to: 150 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: 120 FT Diameter: 1 Inches
 Comments:

Recommended pumping rate: 10 Gallons/Min
 Recommended pump intake: 130 FT
 Type Pump Installed
 Pump Type: SUB
 Pump Model:
 H.P.: .5
 Any further pump test information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: VA2925
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075145
 Map Verified: Not Verified
 Date Report: 1979/01/11
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: ELGIN EXPLORATION COMPANY LIMITED
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: WILLIAMS, PERCY
 P.O. Box Number: Mailing Address: PIGEON LK
 City: Province: Country:

Drilling Company Approval No.:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SW 24 046 28 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: 2800 FT
 How Obtain: Estimated

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Rotary
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd): 1978/11/01 11:00 AM
 Test Method: Air
 Non pumping 37 FT
 static level:

Rate of water removal: 12 Gallons/Min

Depth of pump intake: 100 FT

Water level at end of pumping: 37 FT

Distance from top of casing to ground level: Inches

Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 67 FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 4 Gallons/Min

Recommended pump intake: 98 FT

Type Pump Installed
 Pump Type: SUB
 Pump Model:
 H.P.: .5
 Any further pump test information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 73 Clay & Rocks
 77 Sand
 98 Clay & Rocks
 200 Shale & Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1978/11/01
 Date Completed(yyyy/mm/dd): 1978/11/01
 Well Depth: 200 FT Borehole Diameter: 0 Inches
 Casing Type: Steel Liner Type:
 Size OD: 5.56 Inches Size OD: 0 Inches
 Wall Thickness: 0.188 Inches Wall Thickness: 0 Inches
 Bottom at: 103 FT Top: 0 FT Bottom: 0 FT

Perforations from: 0 FT to: 0 FT Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches

Perforated by:

Seal: Driven from: 0 FT to: 98 FT
 Seal: from: 0 FT to: 0 FT
 Seal: from: 0 FT to: 0 FT

Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches
 Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches

Screen Installation Method:

Fittings Top: Bottom:

Pack: Grain Size: Amount:

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1

Pitless Adapter Type:
 Drop Pipe Type:
 Length: 88 FT Diameter: 1 Inches
 Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: 108
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



ALBERTA ENVIRONMENT CHEMICAL ANALYSIS REPORT

WELL NAME: LIGHTNING, PHILLIP
LOCATION: LSD SW SEC 24 TWP.046 RG 28 M 4
WELL DEPTH: 60
AQUIFER:
SAMPLING DATE: 2/20/1978 TIME: 0

WELL ID No:0075146
SAMPLE No: 2039
WATER LEVEL: -9
LABORATORY: AE
PRINT DATE: 11/27/2004

FIELD:	MG/L	FIELD:	MG/L
BICARBONATE	-9	CARBONATE	-9
CHLORIDE	-9	CONDUCTIVITY	-9
DISSOLVED OXYGEN	-9	EH	-9
IRON	-9	MANGANESE	-9
PH	-9	SULPHATE	-9
S2	-9	TEMPERATURE°C	-9
TOTAL ALKALINITY	-9	TOTAL HARDNESS	-9
LABORATORY: Analysis Date: 3/9/1978			
COD	-9	CONDUCTIVITY	1884
DIC	-9	FLUORIDE	0.31
ION BALANCE	1.01	PH	8.5
SAR	-9	SIO2	9.4
TOTAL ALKALINITY	734	TC	-9
TDS	1233	TN	-9
DOC	-9		
AMMONIUM-N	-9	BICARBONATE	864.7177
CALCIUM	3.992	CARBONATE	15
CHLORIDE	3.0033	MAGNESIUM	2.001536
NITRATE-N	-9	NITRITE-N	0.2996
PHOSPHATE	-9	POTASSIUM	1.3114
SODIUM	460	SULPHATE	299.8128
NO ₂ + NO ₃	0.1144	TOTAL HARDNESS	19
ALUMINUM	-9	ARSENIC	-9
BARIUM	-9	BERYLIUM	-9
CADMIUM	-9	CHROMIUM	-9
COBALT	-9	COPPER	-9
IRON	0.05	LEAD	-9
MANGANESE	-9	MERCURY	-9
MOLYBDENUM	-9	NICKEL	-9
SELENIUM	-9	STRONTIUM	-9
VANADIUM	-9	ZINC	-9
HYDROCARBONS	-9	PESTICIDES	-9
PHENOLICS	-9	OTHER 3	0

Remarks: WELL SAMPLE.

-9 indicates that no analysis was done for this parameter

*Indicates concentrations less than.

Temperature reported in Degree Centigrade. Conductivity reported in microsiemens/cm, pH in pH units. Alkalinity and Hardness expressed as Calcium Carbonate. FE, VA, PB, AL, AG expressed as extractable. FE in field measurements and all remaining metals expressed as total.

EH - Oxidation-Reduction Potential
DIC - Dissolved Inorganic Carbon
DOC - Dissolved Organic Carbon
TDS - Total Dissolved Solids

SAR - Sodium Adsorption Ratio
COD - Chemical Oxygen Demand
TN - Total Particulate Nitrogen
TC - Total Particulate Carbon

NOTE: This data may not be fully checked.

The Province disclaims all responsibility for its accuracy



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0285575
 Map Verified: Not Verified
 Date Report: 1996/10/15
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: SCHMIDT DRILLING LTD.
 Mailing Address: RR 2, SITE 16, BOX 16
 Well Owner's Name: CAMERON BUFFALO SCHOOL (SAMSON)
 P.O. Box Number:
 City:

City or Town: PONOKA ALBERTA CANADA
 Well Location Identifier:
 Mailing Address: HOBBEWA
 Province:

Drilling Company Approval No.: 119156
 Postal Code: T4J 1R2
 Postal Code: T0C 1N0
 Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SW 24 046 28 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No

Proposed well use:
 Domestic
 Anticipated Water Requirements/day
 850 Gallons

Materials Used:
 Rate: Gallons
 Oil Present: No

6. Well Yield

Test Date Start Time:

(yyyy/mm/dd): 1996/09/03 11:00 AM

Test Method: Air

Non pumping 91 FT

static level:

Rate of water removal: 25 Gallons/Min

Depth of pump intake: 140 FT

Water level at end of pumping: FT

Distance from top of casing to ground level: inches

Depth To water level (feet)

Elapsed Time

Drawdown Minutes: Sec Recovery

Total Drawdown: 0 FT

If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 15 Gallons/Min

Recommended pump intake: 120 FT

Type Pump Installed

Pump Type: SUB

Pump Model:

H.P.: .75

Any further pump test information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 20 Brown Clay
 112 Gray Shale
 119 Sandstone
 140 Gray Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1996/09/03
 Date Completed(yyyy/mm/dd): 1996/09/03
 Well Depth: 140 FT
 Borehole Diameter: 0 inches
 Casing Type: Steel
 Liner Type: Plastic
 Size OD: 5.56 inches
 Size OD: 4.5 inches
 Wall Thickness: 0.188 inches
 Wall Thickness: 0.237 inches
 Bottom at: 115 FT
 Top: 100 FT Bottom: 140 FT
 Perforations from: 120 FT to: 140 FT
 Perforations Size: 0.25 inches x 12 inches
 from: 0 FT to: 0 FT
 0 inches x 0 inches
 from: 0 FT to: 0 FT
 0 inches x 0 inches
 Perforated by: Machine
 Seal: Bentonite Chips/Tablets
 from: 0 FT to: 115 FT
 Seal: from: 0 FT to: 0 FT
 Seal: from: 0 FT to: 0 FT
 Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 inches
 Slot Size: 0 inches
 Screen Type: from: 0 FT to: 0 FT
 Screen ID: 0 inches
 Slot Size: 0 inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: FT Diameter: inches
 Comments:
 DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 1.5'

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: 14177A
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075150
 Map Verified: Not Verified
 Date Report: 1988/02/10
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: JIM'S DRILLING
 Drilling Company Approval No.: 149180
 Mailing Address: RR 1
 City or Town: MILLET AB CA
 Postal Code: T0C 1Z0
 Well Owner's Name: ROWAN, CASEY
 Well Location Identifier:
 P.O. Box Number:
 Mailing Address: MAMEO BEACH
 Postal Code:
 City: Province: Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NW 24 046 28 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No
 Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons
 Materials Used:
 Rate: Gallons
 Oil Present: No

6. Well Yield

Test Date (yyyy/mm/dd):
 Start Time: 11:00 AM

Test Method: Air
 Non pumping static level: 50 FT

Rate of water removal: 30 Gallons/Min

Depth of pump intake: 100 FT

Water level at end of pumping: 50 FT

Distance from top of casing to ground level: inches

Depth To water level (feet)
 Elapsed Time

Drawdown Minutes: Sec Recovery

Total Drawdown: 50 FT

If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 30 Gallons/Min

Recommended pump intake: 100 FT

Type Pump Installed
 Pump Type: SUB

Pump Model:
 H.P.: .5

Any further pump test information?

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 60 Sand & Rocks
 80 Sandstone
 95 Shale
 135 Sandstone
 165 Shale
 220 Sandstone
 245 Shale
 260 Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1988/01/21
 Date Completed(yyyy/mm/dd): 1988/01/26
 Well Depth: 260 FT
 Borehole Diameter: 0 Inches
 Casing Type: Stainless
 Liner Type: Plastic
 Size OD: 5.56 Inches
 Size OD: 4.5 Inches
 Wall Thickness: 0.188 Inches
 Wall Thickness: 0 Inches
 Bottom at: 160 FT
 Top: 150 FT Bottom: 260 FT
 Perforations from: 150 FT to: 260 FT
 Perforations Size: 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches

Perforated by: Machine

Seal: Driven
 from: 0 FT to: 160 FT

Seal:
 from: 0 FT to: 0 FT

Seal:
 from: 0 FT to: 0 FT

Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches

Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches

Screen Installation Method:

Fittings
 Top: Bottom:

Pack:
 Grain Size: Amount:

Geophysical Log Taken:

Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: No

Held: 0 Documents Held: 1

Pitless Adapter Type:

Drop Pipe Type:
 Length: 100 FT Diameter: 1 Inches

Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: VA2925

This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.

Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0151921
 Map Verified: Not Verified
 Date Report: 1990/01/24
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: SCHMIDT DRILLING LTD.
 Mailing Address: RR 2, SITE 16, BOX 16
 Well Owner's Name: BULL, LOUIS
 P.O. Box Number:
 City: Province: Country:

City or Town: PONOKA ALBERTA CANADA
 Well Location Identifier:
 Mailing Address: HOBBERMA MAMEO BEACH
 Province: Country:

Drilling Company Approval No.: 119156
 Postal Code: T4J 1R2

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SE 24 046 28 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan
 Well Elev: How Obtain:
 FT Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present:

Materials Used:
 Rate: Gallons
 Oil Present:

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd): 11:00 AM
 1989/11/01
 Test Method: Air
 Non pumping 50 FT
 static level:

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 40 Brown Fine Grained Sand
 98 Brown Clayey Till
 138 Green Shale
 200 Gray Fine Grained Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1989/11/01
 Date Completed(yyyy/mm/dd): 1989/11/01
 Well Depth: 200 FT
 Borehole Diameter: 0 Inches
 Casing Type: Steel
 Liner Type: Plastic
 Size OD: 5.56 Inches
 Size OD: 4 Inches
 Wall Thickness: 0.188 Inches
 Wall Thickness: 0.237 Inches
 Bottom at: 103 FT
 Top: 100 FT Bottom: 200 FT
 Perforations from: 140 FT to: 200 FT
 Perforations Size: 0.25 Inches x 12 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 Perforated by: Other
 Seal: Driven
 from: 103 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount: 0
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: FT Diameter: Inches
 Comments:

Rate of water removal: 100 Gallons/Min
 Depth of pump intake: 100 FT
 Water level at end of pumping: 0 FT
 Distance from top of casing to ground level: 0 FT
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes: Sec Recovery
 Total Drawdown: 0 FT
 If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 10 Gallons/Min
 Recommended pump intake: 0 FT

Type Pump Installed
 Pump Type:
 Pump Model:
 H.P.:
 Any further pump test information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: VB3287
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0168969
 Map Verified: Not Verified
 Date Report: 1992/10/09
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: SCHMIDT DRILLING LTD.
 Mailing Address: RR 2, SITE 16, BOX 16
 Well Owner's Name: NEEPOSE, GLENDA/SAMSON BAND
 P.O. Box Number:
 City:
 Drilling Company Approval No.: 119156
 City or Town: PONOKA ALBERTA CANADA
 Well Location Identifier:
 Mailing Address: MA-ME-O, HOBHEMA
 Province:
 Postal Code: T4J 1R2
 Postal Code: T0C 1N0
 Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SW 24 046 28 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan
 Well Elev: How Obtain:
 FT Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No
 Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons
 Materials Used:
 Rate: Gallons
 Oil Present: No

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd):
 1992/08/26 11:00 AM
 Test Method: Air
 Non pumping 50 FT
 static level:
 Rate of water 15
 removal: Gallons/Min
 Depth of 180 FT
 pump intake:
 Water level at 50 FT
 end of
 pumping:
 Distance from top of Inches
 casing to ground
 level:
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes:Sec Recovery
 Total Drawdown: 130 FT
 If water removal was less than 2 hr
 duration, reason why:

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 10 Sand
 18 Brown Clay
 106 Till & Clay
 125 Gray Shale
 132 Gray Clay
 141 Gray Shale
 180 Gray Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1992/08/26
 Date Completed (yyyy/mm/dd): 1992/08/26
 Well Depth: 180 FT
 Borehole Diameter: 0 Inches
 Casing Type: Steel
 Liner Type: Plastic
 Size OD: 5.56 Inches
 Size OD: 4.5 Inches
 Wall Thickness: 0.188 Inches
 Wall Thickness: 0.237 Inches
 Bottom at: 134 FT
 Top: 120 FT Bottom: 180 FT
 Perforations from: 140 FT to: 180 FT
 Perforations Size: 0.25 Inches x 7 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 from: 0 FT to: 0 FT
 0 Inches x 0 Inches
 Perforated by: Saw
 Seal: Driven
 from: 0 FT to: 134 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches
 Screen Installation Method:
 Fillings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: FT Diameter: Inches
 Comments:

Recommended pumping rate: 10
 Gallons/Min
 Recommended pump intake: 120
 FT
 Type Pump Installed
 Pump Type:
 Pump Model:
 H.P.:
 Any further pump test information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: VA8725
 This well was constructed in accordance with the Water
 Well regulation of the Alberta Environmental Protection &
 Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075157
 Map Verified: Not Verified
 Date Report: 1979/11/14
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information		2. Well Location	
Company Name: ALBERTA WW SERVICE		Drilling Company Approval No.: 1/4 or Sec Twp Rge West of LSD M	
Mailing Address: City or Town: Postal Code:		13 25 046 28 4	
Well Owner's Name: BROWN, STUNRT		Location in Quarter: 0 FT from Boundary 0 FT from Boundary	
P.O. Box Number: Mailing Address: HOBHEMA		Lot Block Plan	
City: Province: Country:		Well Elev: 2850 FT How Obtain: Estimated	
3. Drilling Information		6. Well Yield	
Type of Work: New Well Reclaimed Well Date Reclaimed(yyyy/mm/dd): Materials Used:		Test Date Start Time: (yyyy/mm/dd): 1979/09/18 11:00 AM	
Method of Drilling: Cable Tool		Test Method: Pump	
Flowing Well: No Rate: Gallons Gas Present: No Oil Present: No		Non pumping static level: 48 FT	
4. Formation Log		Rate of water removal: 15 Gallons/Min	
Depth from ground level (feet) Lithology Description		Depth of pump intake: 56 FT	
38 Clay		Water level at end of pumping: 48 FT	
130 Blue Shale		Distance from top of casing to ground level: inches	
5. Well Completion		Depth To water level (feet) Elapsed Time	
Date Started(yyyy/mm/dd): 1979/09/13		Drawdown Minutes: Sec Recovery	
Date Completed(yyyy/mm/dd): 1979/09/18		Total Drawdown: 8 FT	
Well Depth: 130 FT		If water removal was less than 2 hr duration, reason why:	
Borehole Diameter: 0 inches		Recommended pumping rate: 8 Gallons/Min	
Casing Type: Steel		Recommended pump intake: 95 FT	
Liner Type: Galvanized Steel		Type Pump Installed	
Size OD: 5.56 inches		Pump Type:	
Wall Thickness: 0.188 inches		Pump Model:	
Wall Thickness: 0.25 inches		H.P.:	
Bottom at: 51 FT		Any further pump test information?	
Top: 0 FT Bottom: 130 FT			
Perforations from: 100 FT to: 130 FT			
Perforations Size: 0 inches x 0 inches			
Perforations from: 0 FT to: 0 FT			
Perforations from: 0 FT to: 0 FT			
Perforated by: Torch			
Seal: Driven			
from: 0 FT to: 49 FT			
Seal:			
from: 0 FT to: 0 FT			
Seal:			
from: 0 FT to: 0 FT			
Screen Type:			
Screen ID: 0 inches			
Slot Size: 0 inches			
Screen Type:			
Screen ID: 0 inches			
Slot Size: 0 inches			
Screen Installation Method:			
Fittings			
Top: Bottom:			
Pack:			
Grain Size: Amount:			
Geophysical Log Taken:			
Retained on Files:			
Additional Test and/or Pump Data			
Chemistries taken By Driller: Yes			
Held: 0 Documents Held: 1			
Pitless Adapter Type:			
Drop Pipe Type:			
Length: FT Diameter: inches			
Comments:			
DRILLER REPORTS WATER SOFT.			
7. Contractor Certification			
Driller's Name: UNKNOWN DRILLER			
Certification No.:			
This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.			
Signature Yr Mo Day			



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075159
 Map Verified: Not Verified
 Date Report
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: FIVELAND N Drilling Company Approval No.:
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: INDIAN AFFAIRS CAN#PASTURE Well Location Identifier:
 P.O. Box Number: Mailing Address: Postal Code:
 City: Province: Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 NE 25 046 28 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan
 Well Elev: 2900 FT How Obtain: Estimated

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Drilled
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No
 Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd): 1963/07/06 11:00 AM
 Test Method: Pump
 Non pumping 33 FT
 static level:
 Rate of water 6
 removal: Gallons/Min
 Depth of 0 FT
 pump intake:
 Water level at 33 FT
 end of
 pumping:
 Distance from top of Inches
 casing to ground
 level:
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes:Sec Recovery
 Total Drawdown: 0 FT
 If water removal was less than 2 hr
 duration, reason why:

4. Formation Log

Depth from ground level (feet)
 Lithology Description
 6 Clay
 22 Clay & Sand
 23 Gravel
 25 Clay
 49 Brown Sandstone
 80 Water Bearing Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1963/07/06 Date Completed (yyyy/mm/dd): 1963/07/06
 Well Depth: 80 FT Borehole Diameter: 0 Inches
 Casing Type: Steel Liner Type:
 Size OD: 2 Inches Size OD: 0 Inches
 Wall Thickness: 0 Inches Wall Thickness: 0 Inches
 Bottom at: 53 FT Top: 0 FT Bottom: 0 FT
 Perforations Perforations Size:
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 Perforated by:
 Seal: Driven
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches
 Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: Yes
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: FT Diameter: 1.81 Inches
 Comments:
 DRILLER REPORTS WATER MED HARD & CLEAR.

Recommended pumping rate: 0
 Gallons/Min
 Recommended pump intake: 50 FT
 Type Pump Installed
 Pump Type: HAND
 Pump Model: CYLINDER
 H.P.:
 Any further pump test information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.:
 This well was constructed in accordance with the Water
 Well regulation of the Alberta Environmental Protection &
 Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0075155
 Map Verified: Not Verified
 Date Report: 1987/01/05
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: CLEAR WATER DRILLING LTD. Drilling Company Approval No.:
 Mailing Address: City or Town: Postal Code:
 Well Owner's Name: SIMON, ALLEN Well Location Identifier:
 P.O. Box Number: Mailing Address: MAMEO BEACH Postal Code:
 City: Province: Country:

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 SE 25 046 28 4
 Location in Quarter
 0 FT from Boundary
 0 FT from Boundary
 Lot Block Plan
 Well Elev: How Obtain:
 FT Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd): Materials Used:
 Method of Drilling: Drilled
 Flowing Well: No Rate: Gallons
 Gas Present: No Oil Present: No

Proposed well use:
 Domestic
 Anticipated Water
 Requirements/day
 0 Gallons

6. Well Yield

Test Date Start Time:
 (yyyy/mm/dd): 1985/12/17 11:00 AM
 Test Method: Pump
 Non pumping 103 FT
 static level:
 Rate of water 8
 removal: Gallons/Min
 Depth of 118 FT
 pump intake:
 Water level at 103 FT
 end of
 pumping:
 Distance from top of Inches
 casing to ground
 level:
 Depth To water level (feet)
 Elapsed Time
 Drawdown Minutes:Sec Recovery
 Total Drawdown: 15 FT
 If water removal was less than 2 hr
 duration, reason why:

4. Formation Log

Depth from ground level (feet)	Lithology Description
80	Clay & Boulders
87	Blue Shale
94	Sandstone
136	Blue Shale & Rocks
148	Gray Hard Shale
154	Blue Shale & Rocks
160	Blue Hard Shale & Rocks
176	Mixed Shale
180	Gray Sandstone
218	Sandstone & Shale Ledges
220	Gray Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1985/12/17 Date Completed (yyyy/mm/dd): 1985/12/17
 Well Depth: 220 FT Borehole Diameter: 0 Inches
 Casing Type: Steel Liner Type:
 Size OD: 5.56 Inches Size OD: 0 Inches
 Wall Thickness: 0.188 Inches Wall Thickness: 0 Inches
 Bottom at: 142 FT Top: 0 FT Bottom: 0 FT
 Perforations Perforations Size:
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 from: 0 FT to: 0 FT 0 Inches x 0 Inches
 Perforated by:
 Seal: Formation Seal
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Seal:
 from: 0 FT to: 0 FT
 Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches
 Screen Type: Screen ID: 0 Inches
 from: 0 FT to: 0 FT Slot Size: 0 Inches
 Screen Installation Method:
 Fittings
 Top: Bottom:
 Pack:
 Grain Size: Amount:
 Geophysical Log Taken:
 Retained on Files:
 Additional Test and/or Pump Data
 Chemistries taken By Driller: No
 Held: 0 Documents Held: 1
 Pitless Adapter Type:
 Drop Pipe Type:
 Length: 140 FT Diameter: 1 Inches
 Comments:

Recommended pumping rate: 8
 Gallons/Min
 Recommended pump intake: 140
 FT
 Type Pump Installed
 Pump Type: SUB
 Pump Model:
 H.P.: .5
 Any further pump test information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: 3809
 This well was constructed in accordance with the Water
 Well regulation of the Alberta Environmental Protection &
 Enhancement Act. All information in this report is true.
 Signature Yr Mo Day



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0132820
 Map Verified: Map
 Date Report
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information		2. Well Location	
Company Name: FRASER, RON		Drilling Company Approval No.:	
Mailing Address:		City or Town: Postal Code:	
Well Owner's Name: WOLLIN, D.W.		Well Location Identifier:	
P.O. Box Number:		Mailing Address: Postal Code:	
City:		Province: Country:	
3. Drilling Information		6. Well Yield	
Type of Work: New Well		Test Date: Start Time:	
Reclaimed Well		(yyyy/mm/dd): 11:00 AM	
Date Reclaimed(yyyy/mm/dd):		1975/09/22	
Materials Used:		Test Method: Bailer & Pump	
Method of Drilling: Rotary		Non pumping static level: 33 FT	
Flowing Well: No		Rate of water removal: 12 Gallons/Min	
Gas Present: No		Depth of pump intake: 36 FT	
4. Formation Log		Water level at end of pumping: FT	
Depth from ground level (feet)	Lithology Description	Distance from top of casing to ground level: Inches	
5	Clay	Depth To water level (feet) Elapsed Time	
46	Sand & Sandstone	Drawdown Minutes: Sec Recovery	
100	Shale	Total Drawdown: 0 FT	
104	Sand & Shale	If water removal was less than 2 hr duration, reason why:	
5. Well Completion		Recommended pumping rate: 0 Gallons/Min	
Date Started(yyyy/mm/dd): 1975/09/22		Recommended pump intake: 0 FT	
Date Completed(yyyy/mm/dd): 1975/09/22		Type Pump Installed	
Well Depth: 104 FT		Pump Type:	
Borehole Diameter: 0 Inches		Pump Model:	
Casing Type: Steel		H.P.:	
Liner Type:		Any further pumptest information?	
Size OD: 4.5 Inches			
Wall Thickness: 0.25 Inches			
Bottom at: 49 FT			
Top: 0 FT Bottom: 0 FT			
Perforations from: 0 FT to: 0 FT			
Perforations Size: 0 Inches x 0 Inches			
Perforations from: 0 FT to: 0 FT			
Perforations Size: 0 Inches x 0 Inches			
Perforations from: 0 FT to: 0 FT			
Perforations Size: 0 Inches x 0 Inches			
Perforated by:			
Seal: Driven			
from: 0 FT to: 49 FT			
Seal:			
from: 0 FT to: 0 FT			
Seal:			
from: 0 FT to: 0 FT			
Screen Type:			
Screen ID: 0 Inches			
Slot Size: 0 Inches			
Screen Type:			
Screen ID: 0 Inches			
Slot Size: 0 Inches			
Screen Installation Method:			
Fittings			
Top: Bottom:			
Pack:			
Grain Size: Amount:			
Geophysical Log Taken:			
Retained on Files:			
Additional Test and/or Pump Data			
Chemistries taken By Driller: No			
Held: 0 Documents Held: 1			
Pitless Adapter Type:			
Drop Pipe Type:			
Length: FT Diameter: Inches			
Comments:			
DRILLER REPORTS MED-HARD WATER			
7. Contractor Certification			
Driller's Name: UNKNOWN DRILLER			
Certification No.:			
This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.			
Signature Yr Mo Day			



Water Well Drilling Report

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.: 0132822
 Map Verified: Not Verified
 Date Report: 1986/03/17
 Received:
 Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: ALKEN BASIN DRILLING LTD.
 Mailing Address: BOX 47
 Well Owner's Name: ORBIT OIL & GAS
 P.O. Box Number:
 City:
 Province:
 Country:

Drilling Company Approval No.: 38394
 City or Town: BENTLEY AB CANADA
 Well Location Identifier:
 Mailing Address:
 Postal Code:
 Rate: Gallons
 Oil Present: No

2. Well Location

1/4 or Sec Twp Rge West of
 LSD M
 04 30 046 27 4

Location in Quarter
 0 FT from Boundary
 0 FT from Boundary

Lot Block Plan

Well Elev: FT
 How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
 Reclaimed Well
 Date Reclaimed(yyyy/mm/dd):
 Method of Drilling: Rotary
 Flowing Well: No
 Gas Present: No

Proposed well use: Industrial
 Anticipated Water Requirements/day: 0 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): 1986/03/01
 Start Time: 11:00 AM

Test Method: Pump
 Non pumping static level: 90 FT

Rate of water removal: 40 Gallons/Min

Depth of pump intake: 132 FT

Water level at end of pumping: 130 FT

Distance from top of casing to ground level: 130 FT

Depth To water level (feet)
 Elapsed Time

Drawdown Minutes:Sec Recovery
 Total Drawdown: 40 FT

If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 40 Gallons/Min

Recommended pump intake: 130 FT

Type Pump Installed
 Pump Type: SUB
 Pump Model:
 H.P.: 3

Any further pump test information?

4. Formation Log

Depth from ground level (feet)	Lithology Description
50	Clay & Coal
60	Sand & Coal
80	Clay
120	Water Bearing Shale
190	Sandstone
200	Shale
220	Sandstone
240	Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1986/03/01
 Date Completed (yyyy/mm/dd): 1986/03/01
 Well Depth: 240 FT
 Borehole Diameter: 0 Inches
 Casing Type: Steel
 Liner Type: Steel
 Size OD: 5.5 Inches
 Size OD: 4.5 Inches
 Wall Thickness: 0.244 Inches
 Wall Thickness: 0.156 Inches
 Bottom at: 80 FT
 Top: 0 FT Bottom: 130 FT
 Perforations
 from: 0 FT to: 0 FT
 from: 0 FT to: 0 FT
 from: 0 FT to: 0 FT
 Perforations Size:
 0 Inches x 0 Inches
 0 Inches x 0 Inches
 0 Inches x 0 Inches

Perforated by: Not Applicable

Seal: Driven
 from: 0 FT to: 80 FT

Seal:
 from: 0 FT to: 0 FT

Seal:
 from: 0 FT to: 0 FT

Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches

Screen Type:
 from: 0 FT to: 0 FT
 Screen ID: 0 Inches
 Slot Size: 0 Inches

Screen Installation Method:

Fillings
 Top: Bottom:

Pack:
 Grain Size: Amount:

Geophysical Log Taken:
 Retained on Files:

Additional Test and/or Pump Data

Chemistries taken By Driller: No
 Held: 0 Documents Held: 1

Pitless Adapter Type:
 Drop Pipe Type: GALV
 Length: 130 FT Diameter: 1.25 Inches

Comments:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
 Certification No.: VA4790
 This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
 Signature Yr Mo Day

Appendix C

Limitations

LIMITATIONS

1. The work performed in this report was carried out in accordance with the Standard Terms of Conditions made part of our contract. The conclusions presented herein are based solely upon the scope of services and time and budgetary limitations described in our contract.
2. The report has been prepared in accordance with generally accepted environmental study and/or engineering practices. No other warranties, either expressed or implied, are made as to the professional services provided under the terms of our contract and included in this report.
3. The services performed and outlined in this report were based, in part, upon visual observations of the site and attendant structures. Our opinion cannot be extended to portions of the site that were unavailable for direct observation, reasonably beyond the control of AMEC Earth & Environmental.
4. Our observations relating to the condition of environmental media at the site are described in this report. It should be noted that compounds or materials other than those described could be present in the site environment.
5. The conclusions of this report are based in part, on the information provided by others. The possibility remains that unexpected environmental conditions may be encountered at the site in locations not specifically investigated. Should such an event occur, AMEC Earth & Environmental must be notified in order that we may determine if modifications to our conclusions are necessary.