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1.0 INTRODUCTION

1.1 Context

The "Plan Area" referred to in this document, the Coyote Crossing Area Structure Plan, is located within the Northeast Quarter of Section 30, Township 22, Range 2, West of the 5th Meridian. ("The Subject Quarter"). (See Attachment #1 for Land Title Certificate; See Figure #4, Plan Area outlined in Red).

1.2 Development History

The Subject Quarter has been subdivided in the past as follows:

- First parcel out of this quarter was approved in 1990 for 15 acres (*Block 1*).
- April of 1991 application was made to subdivide the 15-acre parcel into two (2) four-acre lots with a seven-acre balance, the application was refused due to the agricultural nature of the lands.
- In 1991 seven (7) lots of 4.00 acres each were created by Parkside Management with cash public reserve being taken as cash in lieu of land on account of 10% of the seven (7) lots *(Blocks 2,3,4,5,6,7 & 8)*.
- Victor & Phyllis Bayly created one 5.71 acre lot in 1993 with a panhandle access connecting this parcel to the internal subdivision road to the south. Alberta Environment was not in support of this application due to ground water shortage. Public Reserve was taken on this parcel as well *(Block 9)*.
- In 2000 two (2) 6.00 acre lots were created also by Victor & Phyllis Bayly with cash in lieu being taken on these lots as well *(Block 10 & 11)*.
- Finally, in 2004 a boundary adjustment was applied for to take .49 acres from Block 10, Plan 0111298 and consolidate it into NE 30-22-02-W5M for movement of farm equipment onto the balance of NE 30-22-02-W5M. The application was refused, as Council was not in favor of allowing access of farm equipment through an internal subdivision road created specifically for country residential purposes.
- Victor & Phyllis Bayly created one 4.78 acre lot in 2005 connecting this parcel to 176 Street *(Block 12)*.

The Plan Area does not include any of the aforementioned subdivided parcels with the exception of a portion of Block (12) from which a small ten (10) meter boundary adjustment is requested, (see page 8, Section 2.3).

1.3 Regional / Municipal Location

The Coyote Crossing Plan Area is located in the Lloyd Lake/ Priddis area of north-west Foothills which, due to the close proximity of the City of Calgary, has seen a significant amount of country residential development during the past decade (See Figure #1). The Calgary city limits are located two (2) miles to the east and the Plan Area is one (1) mile west of the primary urban growth corridor outlined in the Intermunicipal Development Plan (IDP) which was established in May of 1998 (See Figure #2). While close to the City, the Coyote Crossing Plan Area is not located within the IDP boundary. Therefore development of the Plan Area is not subject to IDP policies and future growth of the City of Calgary is not expected to directly affect planning for development of the site.

The Coyote Crossing Plan Area is located in a portion of the Municipality that has already experienced considerable subdivision activity and significant fragmentation of the agricultural lands on adjoining quarter sections. For example, the adjoining quarter section to the south of the Plan Area, specifically, SE 30-22-02, contains twenty-one (21) country residential parcels. The subject quarter (NE 30-22-02) contains twelve (12) country residential parcels (See Figure # 3 & #3A).

There are three (3) Area Structure Plans which have been adopted by Council within a two (2) mile radius of the proposed Coyote Crossing Plan Area , they are; The Warner Area Structure Plan , The Red Willow Area Structure Plan and The Stonebridge Area Structure Plan. All of the aforementioned ASP's are located on the south side of 22X and have provided a framework for maximum development of the Plan Area. The Coyote Crossing Plan Area is located on the north side of Highway 22X.

The Coyote Crossing ASP proposes five (5) additional country residential lots, a three (3) acre municipal reserve, plus a balance which contains the existing residence, be developed on 88.16 acres of land. This ASP will bring the density on this quarter section of land to eighteen (18) lots (See Figure #4 for an overview of the existing parcel, Figure #4A for an aerial overview, Figure #5 for a subdivision map showing five (5) additional lots and the internal roadway and Figure #5A for an aerial overview).

The most recent subdivisions consist of:

- A four (4) lot subdivision created in 2005 by Walema & Euca Holdings with parcels between 3.40 & 5.49 acres in size with construction of a service road and internal road in the SW of Section 29.
- Two (2) lots of four (4) acres each leaving a balance of 10.48 acres created in 2005 in the SE of Section 30.
- In 2005 one lot of ten (10) acres in size was created by Schubert. An easement agreement from end of internal subdivision road across balance to new parcel was requested in the SW of Section 30.
- The Red Willow Development which consists of twenty-seven (27) country residential lots.

- The Stonebridge Development which has had first reading and is currently before Council.

This general area appears well on its way in transition from purely agricultural uses, to a mixture of country residential uses with some agricultural pursuits. This transition is fuelled by the proximity of the Subject Quarter to a prosperous and growing major urban center like Calgary immediately to the east while Highway 22X provides convenient access to locations throughout the region including Bragg Creek and Kananaskis Country to the West. The T'suu T'ina lands are located one (1) mile to the north.

1.4 PURPOSE OF THE PLAN

The Coyote Crossing Area Structure Plan was prepared at the request of the Municipal District of Foothills Council. The purpose of the Area Structure Plan is to act as a planning guide and to set parameters for future developments by establishing a range of compatible and appropriate land uses for the Plan Area. The Coyote Crossing Area Structure Plan is necessary to establish an orderly approach with respect to subdivision and development within the Plan Area, addressing land use, servicing, access and density.

1.5 LEGISLATIVE FRAMEWORK

The Coyote Crossing Area Structure Plan has been prepared in accordance with the provisions of the Municipal Government Act (Statutes of Alberta, 1994, Chapter M-26.1, which reads:

633 (1) For the purpose of providing a framework for subsequent subdivision and development of an area of land, a council may, by bylaw, adopt an area structure plan.

(2) An Area Structure Plan,

(a) must describe
- the sequence of development proposed for the area,
- the land use proposed for the area, either generally or with respect to specific parts of the area,
- the density of population proposed for the area either generally or with respect to specific parts of the area,
- the general location of major transportation routes and public utilities and
- may contain any other matters the council considers necessary.

As well, this Area Structure Plan complies with the MD of Foothills Guidelines for preparation of Area Structure Plans.

1.6 INTERPRETATION

Within this document, The Coyote Crossing Area Structure Plan:

- **ASP,** means Area Structure Plan;
- **Plan Area,** means those lands located within the Northeast Quarter of Section 30, Township 22, Range 2, West of the 5th Meridian. ("The Subject Quarter");
- **Developer,** means the owner of the Plan Area;
- **Subject Quarter,** means the NE 1/4 Section 30, Twp. 22, Rge. 2, W5M;
- **Municipality,** means the Municipal District of Foothills No:31;
- **Council,** means the Council of the Municipal District of Foothills No:31;
- **MDP,** means the Municipal Development Plan of the Municipal District of Foothills No:31;
- **CLI,** means the Canada Land Inventory soil classification for agriculture.
- **Development,** means subdivision and installation of roads and services;

2.0 THE PLAN AREA

2.1 REGIONAL SETTING

The Plan Area is located in the north western portion of the Municipal District of Foothills No. 31. The Plan Area is located two (2) miles (3.2 km) west of the City of Calgary City Limits. The T'suu T'ina lands are located one (1) mile to the north .The subject parcel is located in Division 4, South of 162 Avenue and West of 176 Street (see Figure #1).

2.2 PLAN AREA BOUNDARIES

The Plan Area for the Coyote Crossing Area Structure Plan is defined as the Northeast Quarter of Section 30, Township 22, Range 2, West of the 5th Meridian, excepting thereout :

Plan	Number		Hectares	(Acres)
Descriptive	Plan	9012434	6.07	15.0
Subdivision	Plan	9111370	13.6	33.6
Subdivision	Plan	9410181	2.31	5.71
Subdivision	Plan	0111298	5.16	12.76
Subdivision	Plan	0514342	1.93	4.77

Excepting thereout all mines and minerals

The Plan Area contains a net acreage of 88.16 acres (35.69 hectares) more or less and currently stands in the name of Victor & Phyllis Bayly as shown on Certificate of Title (Attachment #1).

2.3 BOUNDARY ADJUSTMENT

A .47 acre northern boundary adjustment is requested from Block twelve (12), Plan 051 4342 which currently stands in the name of Victor & Phyllis Bayly as shown on Certificate of Title (Attachment #2). This will reduce Block twelve (12) from 4.77 acres to 4.30 acres and increase the Plan Area from 88.16 acres (35.69 hectares) to 88.63 acres (35.88 hectares)

The boundary adjustment is ten (10) meters in width by 190 meters in length running the perpendicular width of the existing northern boundary of Block twelve (12)(See Figure #4 for overview of existing parcel and Figure #5A for proposed boundary adjustment). The purpose of the boundary adjustment is to allow for the widening of the proposed internal subdivision road .

2.4 DESCRIPTION OF PLAN AREA

The topography of the Plan Area is primarily level with a gentle slope to the north and is rectangular in shape. The far north west corner of the site adjoins a year round creek with increased slopes which drop in elevation.

The northeast portion of the site contains a gated entranceway and a paved driveway to an existing dwelling, attached garage, shop, barn and four (4) small horse shelters. There is one (1) well 100 meters west of the existing residence and a septic field directly to the north of the existing residence.

Two (2) drainage courses on the lands were noted, one to the immediate west of the existing residence and the second bisects the balance of the lands to the west. The draws are dry for most of the year, except when carrying seasonal melt water or storm runoff water, which drains to the north. A large aerial overview is attached as Figure #6.

The lands to the south and west of the existing dwelling, in which the subdivision is proposed, are CLI 5E pasture land and agricultural fields under cultivation. Discussions with Agriculture Canada has confirmed the soils within the Plan Area are Maycroft Soils, the supporting report is enclosed as Attachment #3.

An enlarged aerial photograph of the Plan Area on which both the proposed subdivision and boundary adjustment have been superimposed can be reviewed as Attachment #6. The boundaries and immediate land uses can be generally described as follows:

- To the east, (176 Street), a paved municipal road.
- To the south by six (6) country residential lots, more specifically Blocks 7,8,9 & 12 which are fully developed with existing residences and Blocks 10 & 11 which are awaiting development.
- To the north, pasture land held by an adjoining property owner.
- To the west, cutivated farm land held by an adjoining property owner.

3.0 PLAN GOALS AND OBJECTIVES

3.1 GOALS AND OBJECTIVES

The Coyote Crossing Area Structure Plan attempts to achieve the orderly, economical and beneficial development and use of the lands within the Plan Area. It is intended to be a flexible, long-term framework for the development and patterns of human settlement within the Plan Area. The goals and objectives of this Area Structure Plan are as follows:

3.1.1 To conform to the provisions of the Municipal Government Act (MGA) Statutes of Alberta, 1994, Chapter M-26.1 , as amended and the Subdivision and Development Regulation, Alberta Regulation 43/2002.

3.1.2 To define a land use strategy that conforms to the general principals contained in the MD of Foothills No. 31 Municipal Development Plan.

3.1.3 To provide guidance for subdivision and development of lands within the Plan Area which will result in an orderly and sequential development pattern.

3.1.4 To ensure that all future development of lands within the Plan Area will conform to the Policies contained in this Area Structure Plan.

3.1.5 To establish high quality developments that are compatible with and which will harmonize with existing developments and natural features in the Plan Area and immediate surrounding areas.

3.1.6 To preserve and protect existing natural features.

3.1.7 To provide an efficient and safe internal road network that yields a minimum of future road maintenance for the Municipality.

3.1.8 To establish policies that will direct proposed land uses, open spaces, transportation patterns, servicing, development phasing, population densities and wildlife impact as well as any other matters that the Municipality deems necessary.

3.1.9 All development shall be in accordance with statutory policy and municipal standards in effect at the time development is approved and in compliance with the MD of Foothills Land Use Bylaws.

4.0 PLAN POLICIES

4.1 THE PLAN CONCEPT

Coyote Crossing is proposed to be a country residential subdivision and natural area that is designed to be compatible with the existing residential development within the immediate area while permanently preserving the natural pond, stream and seasonal drainage course which forms a wildlife corridor on the north-western edge of the Plan Area. Block eighteen (18) has been set aside as a 2.47 acre Environmental Reserve. A drainage easement will be used to indicate to future property owners that the drainage pattern is not to be constructed upon or changed. The seasonal drainage course, which forms the east boundary of the Phase three (3) development, is proposed to remain in its natural condition and remain in the title of the balance lands (See Figure #6 and Attachment #10).

Existing development within the North-East Quarter of Section 30 consists of twelve (12) country residential lots, which, with one exception, range in size from four (4) acres to six and one half (6.5) acres, more specifically, Blocks one (1) through twelve (12) inclusive. Block one (1) is the exception being a fifteen (15) acre parcel. Existing homes have been developed on ten (10) of the lots and two (2) lots are vacant pending development. All of the lots are fully serviced with individual water wells, septic tanks and fields, natural gas, power and telephone and are serviced by a paved internal road system being 162nd Avenue (See Figure #5A).

Coyote Crossing is proposed to be a five (5) lot country residential subdivision which will be serviced by an internal roadway similar to the existing internal roadway to the south. The lots range in size from approximately four and one half (4.5) acres to six and one half (6.5) acres and are detailed on Figure #6 as Blocks 13, 14, 15, 16 and 17.

Coyote Crossing is a planned country residential development that is proposed to be developed in three (3) phases, which are shown on Figure #5A and described as follows:

- Phase One (1) development will consist of one (1) country residential lot located in the eastern portion of the Plan Area adjoining 176 Street. This lot, Block thirteen (13) will have a total area of 5.27 acres and ingress and egress will be provided from an internal roadway as shown in Figure #4. As previously mentioned a boundary adjustment will be required to Block twelve (12) to accomodate an internal roadway.

Initially, for Phase One (1) the roadway will be developed to a length of 100 feet to accommodate driveway ingress and egress to Blocks twelve (12) and thirteen (13). The existing driveway to Block twelve (12) which is currently off 176 Street will be changed to provide access and egress from the internal roadway.

- Phase Two (2) development will consist of two (2) country residential lots located in the southern portion of the Plan Area. The lots will have a total area of 4.56 and 4.62 acres and ingress and egress will be provided from an internal roadway as shown in Figure #5A.The internal roadway will be developed to a length of 1,400 feet to accommodate driveway ingress and egress to Blocks fourteen (14) and fifteen (15).

- The Phase Three (3) development will consist of two (2) country residential lots located in the western portion of the Plan Area. The lots will have a total area of 6.49 and 6.03 acres and ingress and egress will be provided from an internal roadway as shown in Figure #5A.The roadway will be completed to a length of 2,900 feet to accommodate driveway ingress and egress to Blocks sixteen (16) and seventeen (17).

Phase Three (3) will also contain a 2.47 acre environmental reserve described as Block Eighteen (18) and a 3.07 acre municipal reserve described as Block Nineteen (19) as shown on Figure #5A.

The remainder of the Plan Area (the balance lands 49.05 acres +/-) is proposed to remain as an agricultural parcel until such time as, an amendment to the Area Structure Plan indicating further subdivision of the agricultural balance is approved by Council. A wildlife corridor and seasonal drainage ditch is highlighted on Figure #5A and is proposed to remain in its natural condition and remain in the title of the balance lands.

4.2 PHASED DEVELOPMENT

As all five (5) lots are being developed sequentially along a common, internal roadway a phased development will be implemented as follows:

4.2.1 Phase1

Phase One (1) will consist of a single, country residential lot, Block thirteen (13). An internal roadway will be established to a length of 100 feet (30 meters) and a turnaround will be located at the end of the roadway. The entire internal road and all approaches shall be constructed in accordance with MD of Foothills Municipal Standards for graveled roads, with sufficient width to accommodate future pavement. An internal driveway will be established with culverts for both Block twelve (12) and Block thirteen (13). It is anticipated that residential development will be completed on Block thirteen (13) within twelve (12) months of final subdivision approval. Upon completion of all

essential services (power, gas, water and roads) on Block thirteen (13), Phase Two (2) will be available for development (See Figure #5A).

4.2.2 Phase 2

Phase Two (2) will consist of two (2) country residential lots, Block fourteen (14) and Block fifteen (15) and it is anticipated that development will occur within 24 to 36 months after final subdivision approval is approved. Phase Two (2) will require the internal roadway be developed to a depth of not less than 1,400 feet (427 meters) with a turnaround at least 100 feet into the proposed roadway of Block Fifteen (15). The internal road and all approaches shall be constructed in accordance with MD of Foothills Municipal Standards for paved roads. Upon completion of all essential services (power, gas, water and roads) on Block fourteen (14) and Block fifteen (15), Phase Three (3) will be available for development (See Figure #5A).

4.2.3 Phase 3

Phase Three (3) will consist of two (2) country residential lots, one (1) environmental reserve lot, and one (1) municipal reserve lot as displayed in figure #5A as Blocks sixteen (16) through nineteen (19) respectively. It is anticipated that development will occur within 48 to 60 months after final subdivision approval is approved.

Phase Three (3) will require the internal roadway be fully developed to a depth of not less than 2,900 feet (884 meters) with a turnaround at least 100 feet into the proposed roadway of Block Seventeen (17). The internal road and all approaches shall be constructed in accordance with MD of Foothills Municipal Standards for paved roads.

4.3 LAND USE COMPONENT

Development within the Plan Area will include uses consistent with the M.D. of Foothills No. 31 Agricultural District and Country Residential District as outlined in pertinent sections of the Municipal Development Plan and Land Use Bylaw. The plan area will also include a municipal reserve and an environmental reserve lot.

Once the Plan Area is fully developed to its planned potential, the population within the five (5) lot country residential development is estimated at fifteen (15) people. This estimate assumes an average household size of 2.9 persons per household as indicated by the 2003 M.D. of Foothills census.

POLICIES

4.3.1 *All developments within the Plan Area shall conform to all provincial and municipal requirements, specifically, the Municipal Government Act, the Subdivision and*

Development Regulation, the MD of Foothills Municipal Development Plan, the Foothills Land Use Bylaws, as well as any other relevant statutory provisions adopted by the Province or Municipality.

4.3.2 *All subdivision and development within the Plan Area shall be in conformity with the guidelines of Alberta Environment.*

4.3.3 *Uses on each new lot developed shall comply with the Restrictive Covenants included in Attachment #4 and these Restrictive Covenants shall be registered as encumbrances on the titles of each new lot.*

4.3.4 *Development of the country residential lots shall be in three (3) phases. Phase Two (2) development shall not begin until Phase One (1) is completed as described herein. Phase Three (3) development shall not begin until Phase Two (2) development is complete as described herein.*

4.3.5 *Following development of the five (5) country residential lots within the Plan Area, the continued use of the balance lands for agricultural pursuits such as pastureland or hay and crop production , shall be allowed.*

4.3.6 *Each of the country residential lots shall contain a minimum 4.0 acres (1.62 hectares).*

4.3.7 *All future developments on the balance lands will require Council approval prior to implementation.*

4.4 ENVIRONMENTAL CONSIDERATIONS AND RESERVE LANDS

The topography of the Plan Area is primarily level with a gentle slope to the north and is rectangular in shape. The far north west corner of the site adjoins a year round creek with increased slopes which drop in elevation.

The far easterly portion of the site contains a gated entranceway and a paved driveway to an existing dwelling, attached garage, shop, barn and four (4) small horse shelters. Two (2) drainage courses on the lands were noted, one to the immediate west of the existing residence and the second bisects the balance of the lands to the west. The draws are dry

for most of the year, except when carrying seasonal melt water or storm runoff water which drains to the north. The far west drainage course forms the eastern boundary of the Phase three (3) country residential development. The creek and pond on the northwest corner of the property, which is 2.57 acres in size and delineated as Block eighteen (18) on Figure #6 is to be designated environmental reserve and remain in a natural condition.

Municipal Reserves for phases one (1) through three (3) will provided by way of land, namely as a municipal reserve lot of approximately 3.0 acres in size; the municipal reserve lot will be legally surveyed in accordance with phase three (3) as displayed in Figure #5A and as outlined herein. Any outstanding reserves will be deferred by caveat on the title of the balance lands.

POLICIES :

4.4.1 The existing drainage patterns within the Plan Area shall be protected by way of a Restrictive Covenant to be registered on each of the proposed lots and the balance lands.

4.4.2 Municipal Reserves shall be provided to the satisfaction of the MD of Foothills Council. Coyote Crossing ASP proposes to provide Municipal Reserve by way of land at phase three (3) as outlined herein and displayed in Figure #5A.

4.4.3 An Environmental Reserve as generally illustrated in Figure #6, shall be appropriately designated under the MD of Foothills Land Use Bylaw prior to approval of country residential lots.

4.5 DEVELOPMENT CONSTRAINTS

Policies of the Municipality require that all building sites be a minimum of one (1) contiguous acre in size. These building sites must not contain a high water table or ground slopes of more than 15%. Figure #5 shows the layout of the proposed lots and roadways within the Plan Area. Figure #7 shows quarter 1 meter interval contours and delineates the areas which have ground slopes greater than 15%, areas that are wetlands and areas along the natural draws that are unsuitable for building sites. The proposed lots within the Plan Area have all been designed such that each lot has an acceptable building site as defined by the Municipality.

POLICIES :

4.5.4 If deemed necessary by Council, a geotechnical report shall be prepared by a qualified professional, in areas where adverse topography or steep slopes are a factor in development on any lot within the Plan Area.

4.5.4 If deemed necessary by Council, a storm water management report shall be prepared by a qualified professional, in areas where overland drainage is a

factor in the development on any lot or roadway within the Plan Area. This is to be done in conjunction with the road engineering.

4.5.4 Each lot within the Plan Area shall contain a building site having a minimum area of one acre within which the ground slopes are less than 15% and a high groundwater table is not present.

4.5.4 A Restrictive Covenant shall be registered on the titles of each lot and the balance lands within the Coyote Crossing Plan Area indicating that the lot owners shall not interfere with any natural or manmade drainage courses which cross their respective lots. A draft of such a Restrictive Covenant is attached as Attachment #10.

4.6 TRANSPORTATION

The Plan Area is bound on the south by six (6) country residential lots, more specifically Blocks 7,8,9,10, 11 & 12 and to the east, by a paved municipal road (176 Street) and on the west and north by agricultural lands (See Figure #5A).

Access to the five (5) lot subdivision is planned via an internal roadway with access directly onto 176th Street as shown on Figure #5A . All future land parcels (excluding the existing residence on the agricultural balance) will be accessed from the internal road and the existing approach for Block 12 which has direct access to 176th Street will be removed and rebuilt to connect to the internal roadway. The approach onto 176th Street is a safe intersection with acceptable sight lines each way from the intersection. The internal road will provide for safe and efficient movement of traffic as well as reliable access for emergency vehicles.

There were no traffic surveys conducted by the Municipality on 176th Street near the subject lands. Industry standards suggest an average of six (6) to eight (8) trips per day for each household depending upon the size of the size and demographics of each family. The Land Use Map indicates 33 families use 176th Street indicating a maximum of 264 vehicles per day. Assuming an average eight (8) trips per household per day, it is projected that the traffic on 176th Street will increase by 40 vehicles per day once all the proposed lots within the Plan Area have been developed. Given the development is phased over a five (5) year period the 15% increase brought about by the proposed subdivision will have no significant impact 176th Street.

POLICIES :

4.6.1 All internal roads within the Plan Area shall be designed and constructed at the sole cost of the Developer in accordance with MD of Foothills Municipal Standards, generally as shown on the attached drawings.

4.6.2 For Phase One (1), the internal road and all approaches shall be constructed to a length of 100 feet, to provide access to Block 12 and Block 13, in accordance with MD of Foothills Municipal Standards for graveled roads, with sufficient width to accommodate future pavement.

4.6.3 For Phase Two (2), the internal road and all approaches shall be constructed to a length of 1400 feet, to provide access to Block 14 and Block 15, in accordance with MD of Foothills Municipal Standards for paved roads.

4.6.4 For Phase Three (3), the entire internal road and all approaches shall be constructed to a length of 2,900 feet, to provide access to Block 16, Block 17, and Block 19, in accordance with MD of Foothills Municipal Standards for paved roads.

4.6.5 All internal roads and approaches within the Plan Area shall be maintained throughout the maintenance period prescribed by the Municipality, at the sole cost of the Developer. Following issuance of the Final Acceptance Certificate by the Municipality for the internal roads and approaches, which will be issued subsequent to phase three (3) construction and maintenance of the internal road by the developer, maintenance for the internal roads and approaches shall be conducted at the sole cost and responsibility of the Municipality.

4.6.6 All new lots within the plan area shall have direct access onto the internal roadway via approaches built to Municipal standards.

4.6.7 All development setbacks shall be in accordance with the MD of Foothills.

4.6.8 If deemed necessary by Council, the Developer shall enter into a Development Agreement with the Municipality with respect to a contribution for upgrading and maintenance of external roadways.

4.6.9 If required by the Municipality, the Developer shall conduct traffic studies or a Traffic Impact Assessment with respect to access onto 176th Street, at the sole cost of the Developer.

4.7 SERVICING

The Developer proposes to service the country residential developments within the Plan Area by way of conventional service techniques.

Water Service:

The Developer proposes to supply water to each lot by way of an individual well drilled on each lot.

In September of 2000, a groundwater supply evaluation was prepared by, Groundwater Exploration & Research Ltd., on two water wells in Blocks 10 & 11. Each of these wells were pump tested for 12 hours and each well was found to have a supply of water sufficient for country residential development. The hydrologist's report summarizing the testing of the two (2) wells and a review of water wells in the area is included in Attachment #5. The key points contained in the report are as follows:

- Each of the two groundwater production wells are capable of providing a maximum of 3.42 m3/day (1,250 cubic meters per year) for the proposed two (2) +/- 2.43 hectare (6 acre) parcels

- Pumping of the new wells will not result in any adverse effect on neighboring wells or licensed users existing at the time of subdivision application.

In 2005, Block twelve (12) was subdivided and an adequate water well was developed. Over the past decade thirteen (13) wells in total have been developed and all but one have provided adequate supplies of water (See Attachment #6 for individual depths and water volumes). The one exception has been in the extreme northeast corner of the agricultural balance, which is not in the vicinity of the proposed subdivision.

Most recently, in May of 2006 a water well was drilled and developed on the proposed Block thirteen (13) in Phase One (1). The well was pump tested for 12 hours and was found to have a supply of water sufficient for country residential development. The hydrologist's report summarizing the testing of the new well and water wells in the area is included as Attachment #7 (See Attachment #6A for individual depths and water volumes on Block 13). The key points contained in the report are as follows:

- The groundwater production well is capable of providing a maximum of 1250 cubic meters per year in accordance with Section 23(3) of the Water Act for the proposed +/-hectare (5.27 acre) #6030 well parcel.

- Pumping of the new well, for household purposes, will not interfere with any household users, licensees or traditional agricultural users who exist at the time of subdivision application.

- Historical non-pumping water levels do not indicate a concern for any significant decline in regional water levels.

All available information suggests that there is a high probability of good quality well water within the Coyote Crossing plan area. An adequate supply of water for all water wells within the Plan Area will be proven in accordance with the Provincial Water Act. Further reporting will be provided should Council deem necessary.

Sewage Disposal:

Sewage disposal on the proposed lots is planned by way of conventional septic fields in accordance with the provisions as set out in Alberta Environment's guidelines and the publication entitled " *Alberta Private Sewage Systems Standard of Practice 1999 Handbook".*

Block twelve (12), which adjoins the Plan Area to the south contains an existing residence with a conventional septic field which was percolation tested in 2003 and operates well. In addition, the existing residence on the balance lands within the Plan Area, also contains a conventional septic field which has been in operation for 15 years and operates well. The contour of the lands and the drop in elevation lends itself to a conventional septic field system

Field percolation and near surface water table testing was not conducted on the Plan Area lands as these lands are well drained uplands and appear to be suitable to accept sewage by way of conventional septic fields. If requested by Council percolation reports and water table testing will be provided to the satisfaction of Council.

Storm Water Management:

Storm water drainage is currently handled by way of naturally occurring surface drainage courses passing through the Plan Area, generally draining from south to north. These drainage courses are dry for most of the year, except when carrying seasonal melt water or in extreme cases, storm runoff water. These drainage courses will generally be left intact. Storm water from each of the lots will either be channeled to the road ditches or will continue to flow toward the existing drainage course west of the Plan Area. Where the roads cross these drainage courses, appropriate sized culverts will be utilized to pass the storm water beneath the roads. All storm water drainage after development of the Plan Area will continue to be handled by way of surface drainage.

Storm water drainage will be incorporated into the engineering of the internal road and best management practices will be utilized in order to ensure that post-development storm water flows to not exceed that of pre-development flows.

Current drainage patterns will remain unchanged and undisturbed. Lot owners shall not, landscape, change elevations, construct upon or interfere with any natural or manmade drainage courses as outlined in Attachment #10.

Solid Waste:

Solid waste from the Plan Area development will be hauled by the individual landowners or a waste disposal contractor, and disposed at the nearest approved waste transfer or landfill site.

POLICIES:

4.7.1 Proof of an adequate water supply shall be provided to the Municipality for each country residential lot within the Plan Area, at the sole cost of the developer. This shall include a water well drilled on each lot. Pump testing of each well, plus well interference and yield calculations, shall all be done by the Developer, in accordance with the Water Act, as amended. A qualified professional shall prepare a report at the cost of the Developer, to confirm that an adequate water supply is available on each lot in accordance with the Provincial Water Act, as amended.

4.7.2 If required by the Municipality, the Developer shall conduct field percolation testing and near surface water table testing, all in accordance with Alberta Environment's guidelines and the guidelines contained in the publication entitled "Alberta Private Sewage Systems Standard of Practice 1999 Handbook".

4.7.3 Lagoons and open discharge from Septic tanks shall not be permitted in the Plan Area.

4.8 UTILITIES:

FortisAlberta Inc. currently supplies power throughout the Municipality by way of an overhead power line grid. The Developer proposes to obtain power from these existing facilities and distribute underground power to the property line of each new country residential lot developed within the Plan Area (See Attachment #8 for location of existing services).

ATCO Gas and Pipelines Ltd. Currently supplies natural gas throughout that portion of the Municipality surrounding the Subject Quarter, by way of a network of underground service pipelines. The Developer proposes to obtain natural gas from these existing lines and distribute underground gas service to the property line of each new country residential lot developed within the Plan Area (See Attachment #9 for location of existing services).

Telus Communications Inc. currently supplies telephone service throughout the Municipality by way of an underground phone line grid. The Developer proposes to distribute an adequate number of phone lines to the property line of each new country residential lot within the Plan Area.

The Developer reserves the right to select other service providers.

POLICIES:

4.8.1 The Developer shall at its sole expense, design, construct and install underground power, natural gas and phone service lines to the property line of each new country residential lot within the Plan Area.

4.8.2 The Developer shall register easements on each lot within the Plan Area to the satisfaction of all utility companies.

4.9 PROTECTIVE SERVICES

Police service to the Plan Area is provided by the Royal Canadian Mounted Police and is available through the RCMP's Turner Valley detachment. The MD of Foothills Special Constables provide additional protective services.

Fire fighting service is available from the Town of Priddis Volunteer Fire Department under contract to the MD of Foothills. This provides 24-hour service to the subject area.

Ambulance Service is available from the Foothills Emergency Medical Services in Okotoks with backup service from the Okotoks FREMS station.

POLICIES:

4.9.1 The design of the subdivision shall ensure that emergency vehicles have all weather developed public access to each lot created in the Plan Area.

5.0 PUBLIC CONSULTATION

A program of public consultation was undertaken to inform the neighbors surrounding the Plan Area, of the proposed land use changes and subdivision patterns contemplated within the Plan Area. This public consultation program consisted of the following:

- An E Mail was made to all neighbors within one half (1/2) mile of the Subject Quarter Section, informing each as to the subdivision proposal, by way of a written description and tentative plan. Private conversations and comments were received from four (4) of the twenty (20) landowners circulated. The initial feedback has been encouraging and no objections had been received at the writing of this report (See Attachment #11).

- Personal contact with some of the immediate neighbors to the Plan Area will continue and their comments will be recorded.

- Submit draft copy of the ASP to the MD of Foothills Planning Staff and review of comments from the Planning Staff.

- Incorporate changes to the ASP as suggested by Planning Staff and neighbors.

6.0 PLAN IMPLEMENTATION

6.1 Plan Implementation

The Coyote Crossing ASP is an intermediate step between the Municipal Development Plan and the Land Use Bylaws as illustrated on the attached Figure 3. The MD of Foothills Municipal Development Plan (MDP) establishes general planning policies, which provide guidance for the subdivision and development of lands within the Municipality as a whole. The Coyote Crossing ASP supports the MDP by adding another layer of detail to the guidelines for subdivision and development, specifically within the Plan Area. The Coyote Crossing ASP does not supersede, repeal, replace or otherwise diminish any other statutory plan in effect for the Plan Area.

POLICIES:

6.1.1 *The policies contained in the Coyote Crossing Area Structure Plan shall be reviewed and implemented by the Municipal District of Foothills Council at their discretion.*

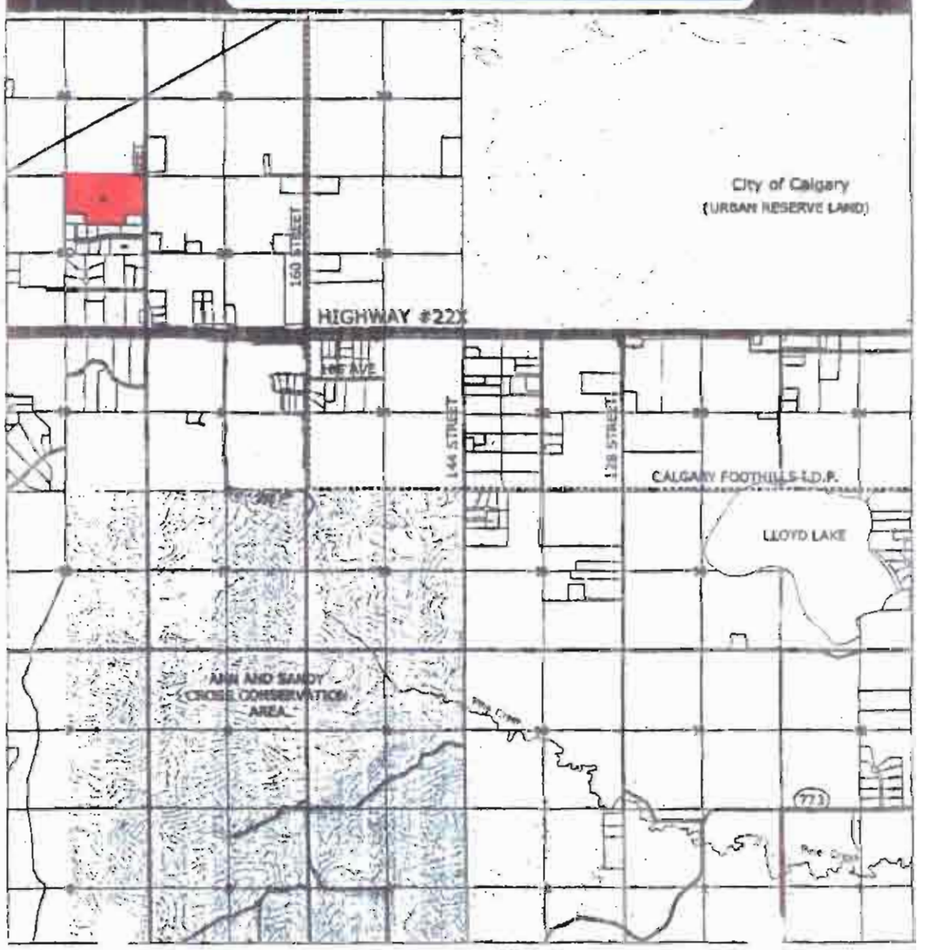
6.2 PLAN REVIEW AND AMENDMENT

Following approval by Council, the Coyote Crossing ASP will become a bylaw of the Municipal District of Foothills. This ASP is prepared to address long-term future land use and development within the Plan Area. A formal process as outlined in the Municipal Government Act, is required to amend this ASP.

POLICIES:

6.2.1 *Any application for subdivision and development within the Plan Area that is contrary to the land use strategy and policies contained in this ASP, will require a formal application to the Municipality for an amendment of the Coyote Crossing Area Structure Plan.*

Figure 1


City of Calgary
(URBAN RESERVE LAND)
160 STREET
HIGHWAY #22X
144 AVE
144 STREET
128 STREET
CALGARY FOOTHILLS I.D.P.
LLOYD LAKE
ANN AND SANDY
CROSS CONSERVATION
AREA
773

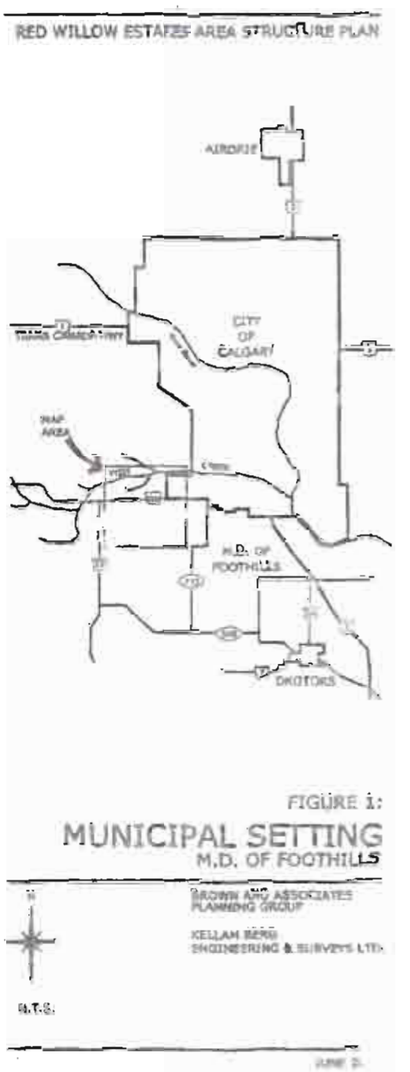
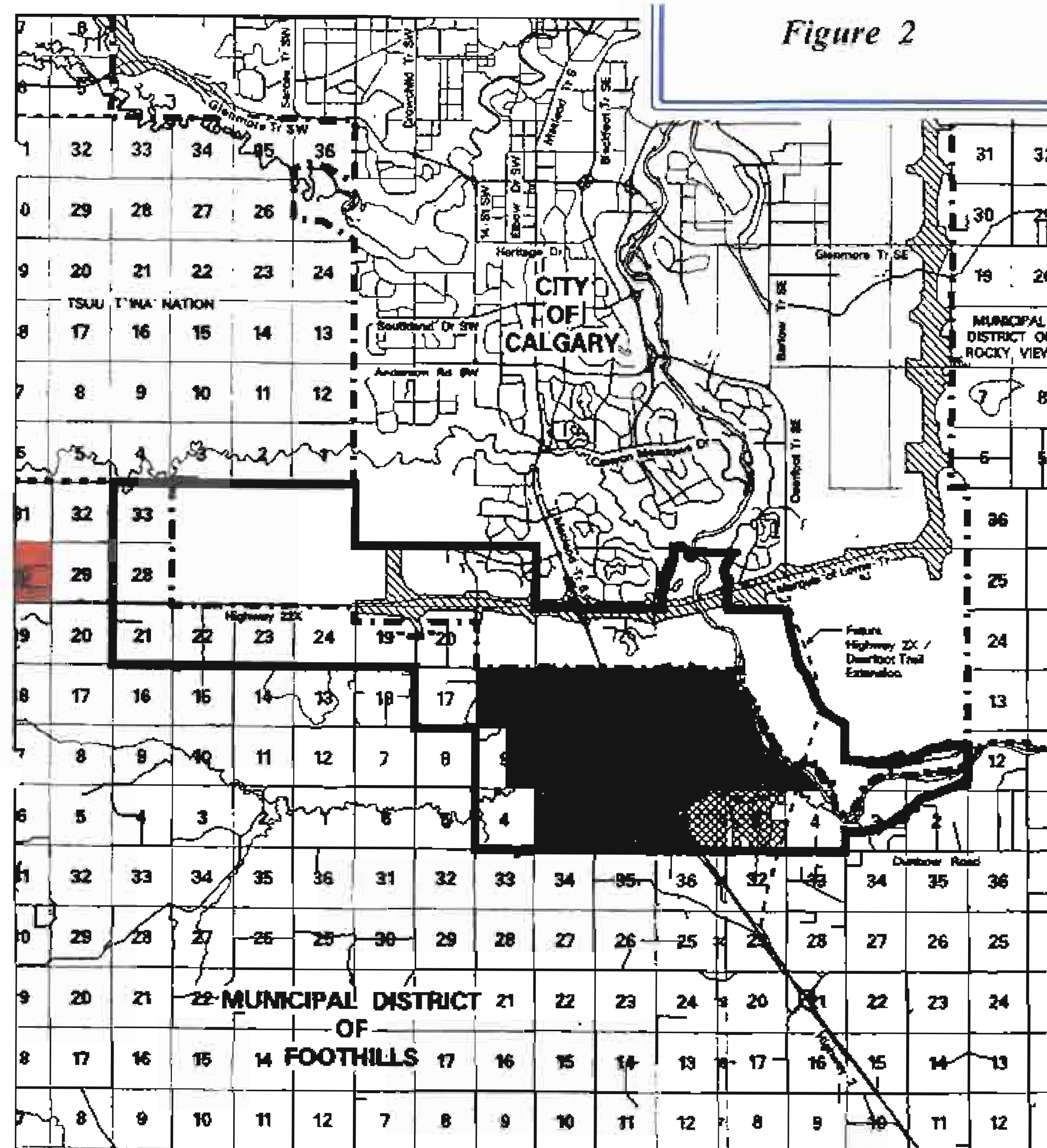

RED WILLOW ESTATES AREA STRUCTURE PLAN
AIRDRIE
CITY OF CALGARY
MAP AREA
M.D. OF FOOTHILLS
OKOTOKS
FIGURE 1:
MUNICIPAL SETTING
M.D. OF FOOTHILLS
BROWN AND ASSOCIATES PLANNING GROUP
KELLAM BERG ENGINEERING & SURVEYS LTD.
N.T.S.

Figure 2



THE CITY OF CALGARY
PLANNING & BUILDING DEPARTMENT

Municipal District of Foothills
City of Calgary
Intermunicipal Development Plan

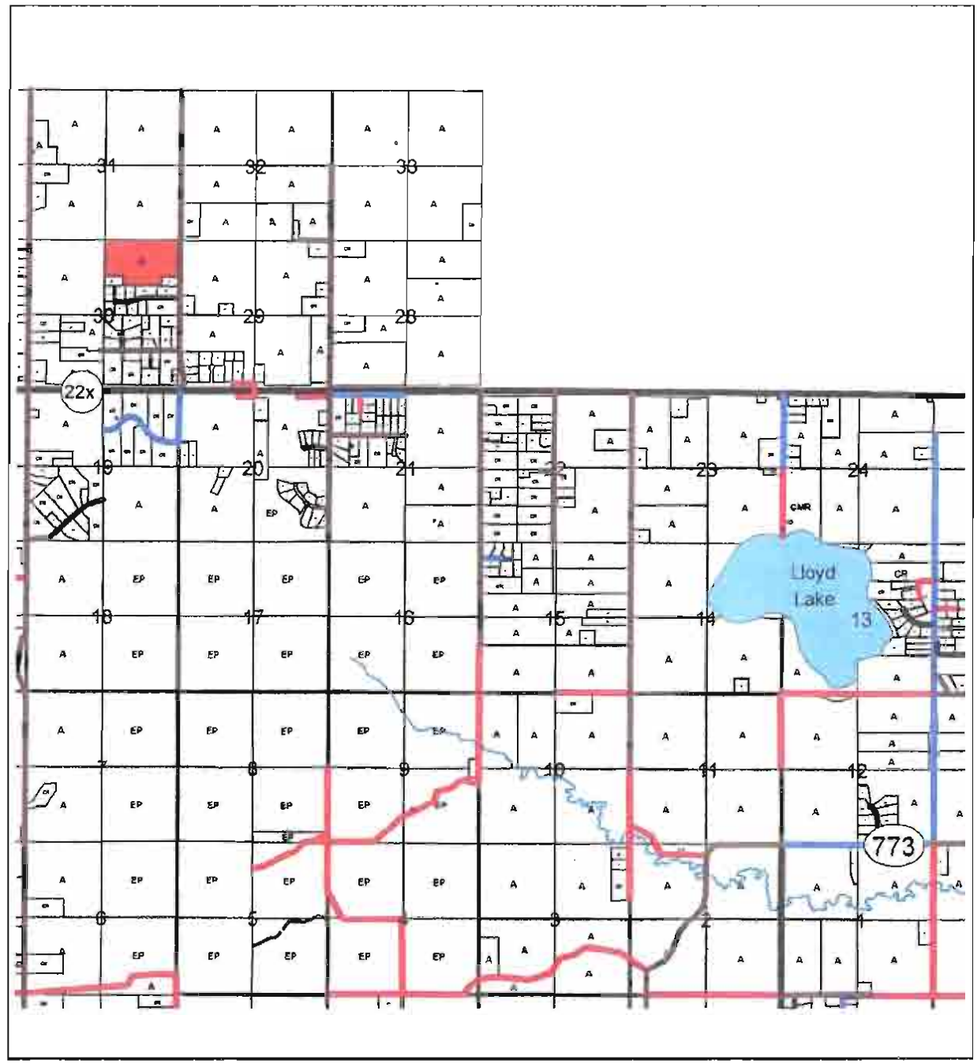
PRIMARY URBAN GROWTH CORRIDOR

Legend

■ Primary Urban Growth Corridor
▨ Transportation /Utility Corridor
City Limits
Municipal District Boundary

Municipal District of Foothills No. 31
Land Use Map Book

Figure 3



0 0.5 1 Kilometers

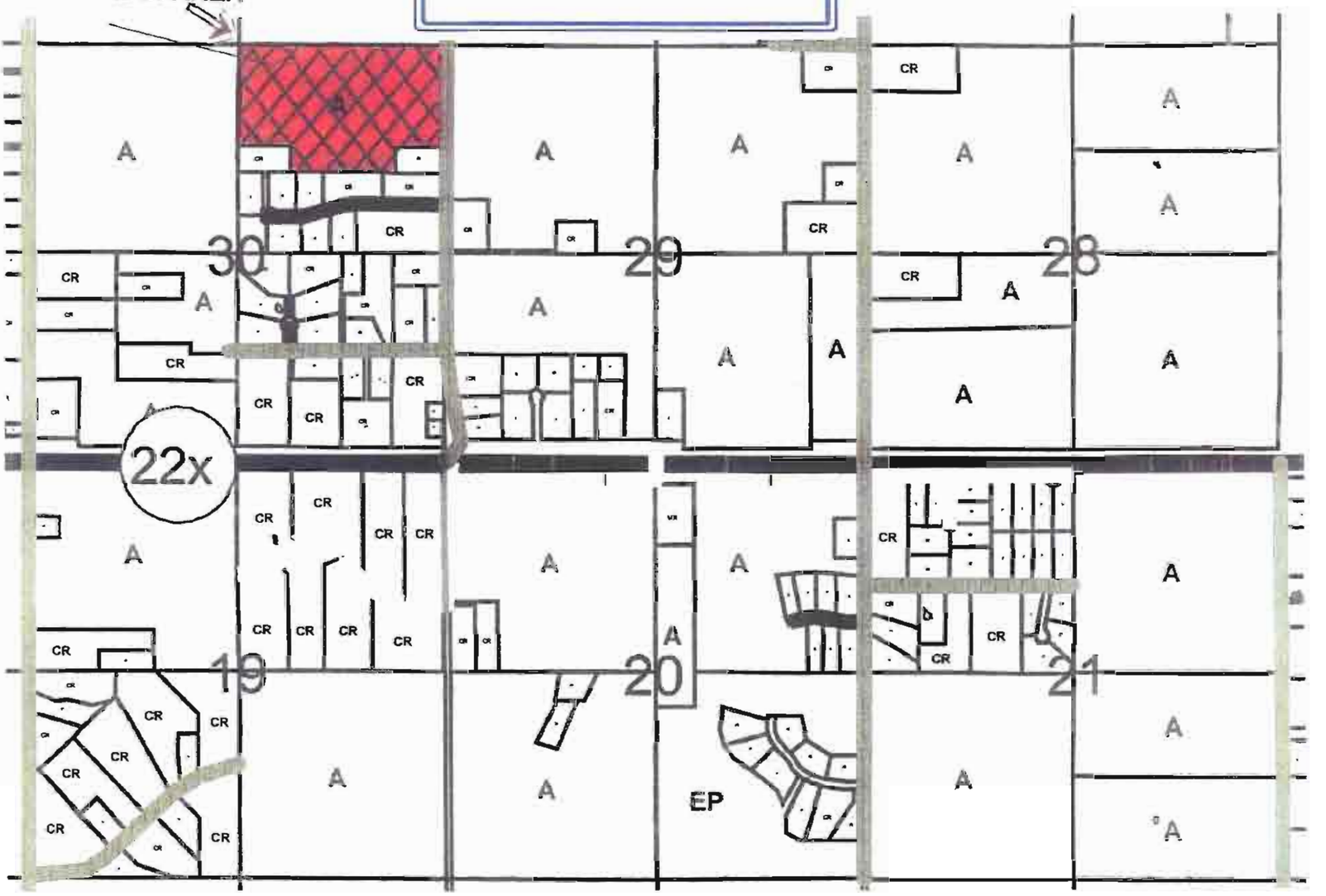
Scale 1:60,000

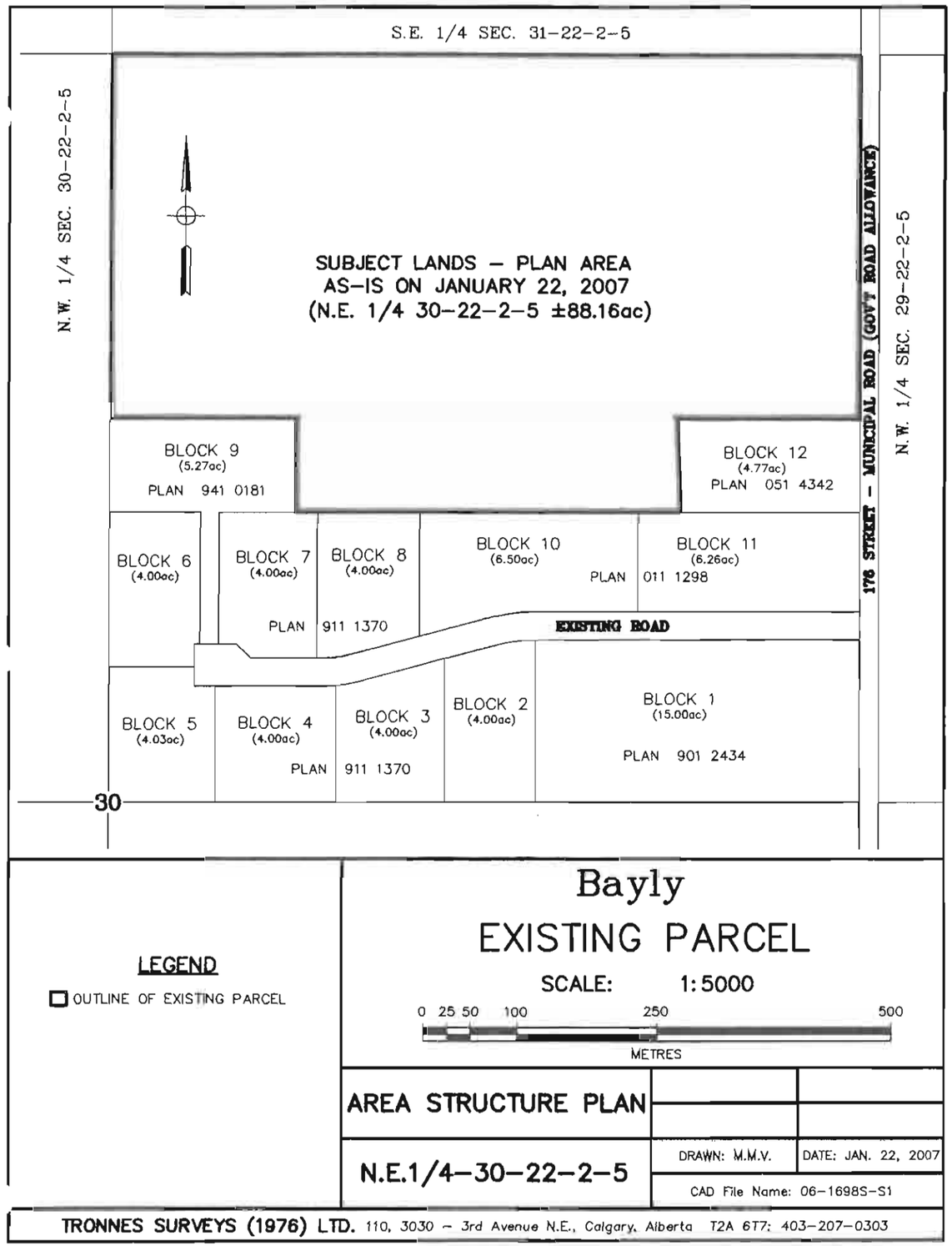
Mar 31, 2006

LEGEND

A	Agricultural
CMH	Commercial Hamlet
CMY	Commercial Highway
CMP	Commercial Park
CMR	Commercial Rural
CR	Country Residential
CRA	Country Residential- Subdistrict A
DC1	Direct Control - Spruce Meadows
DC2	Direct Control - Aldersyde Industrial
DC3	Direct Control - Smed
DC4	Direct Control - Private Airport
DC5	Direct Control - Airport
DC6	Direct Control - Gravel Pit
DC7	Direct Control - Silver Tip Ranch Commercial
DC8	Direct Control - Telecommunications Tower
DC9	Direct Control - Nature's Hideaway Campground
DC10	Direct Control - Paradise Ranch Resort
EP	Environmental Protection
ER	Environmental Reserve
INH	Industrial - Hamlet
INN	Industrial - Natural Resources
INP	Industrial - Park
INR	Industrial - Rural
MR	Municipal Reserve
R	Residential
RA	Residential- Subdistrict A
REC	Recreation
	Multiple Land Use (ie. A/CR)

Figure 3A





LEGEND

OUTLINE OF EXISTING PARCEL

Bayly

EXISTING PARCEL

SCALE: 1:5000

0 25 50 100 250 500

METRES

AREA STRUCTURE PLAN

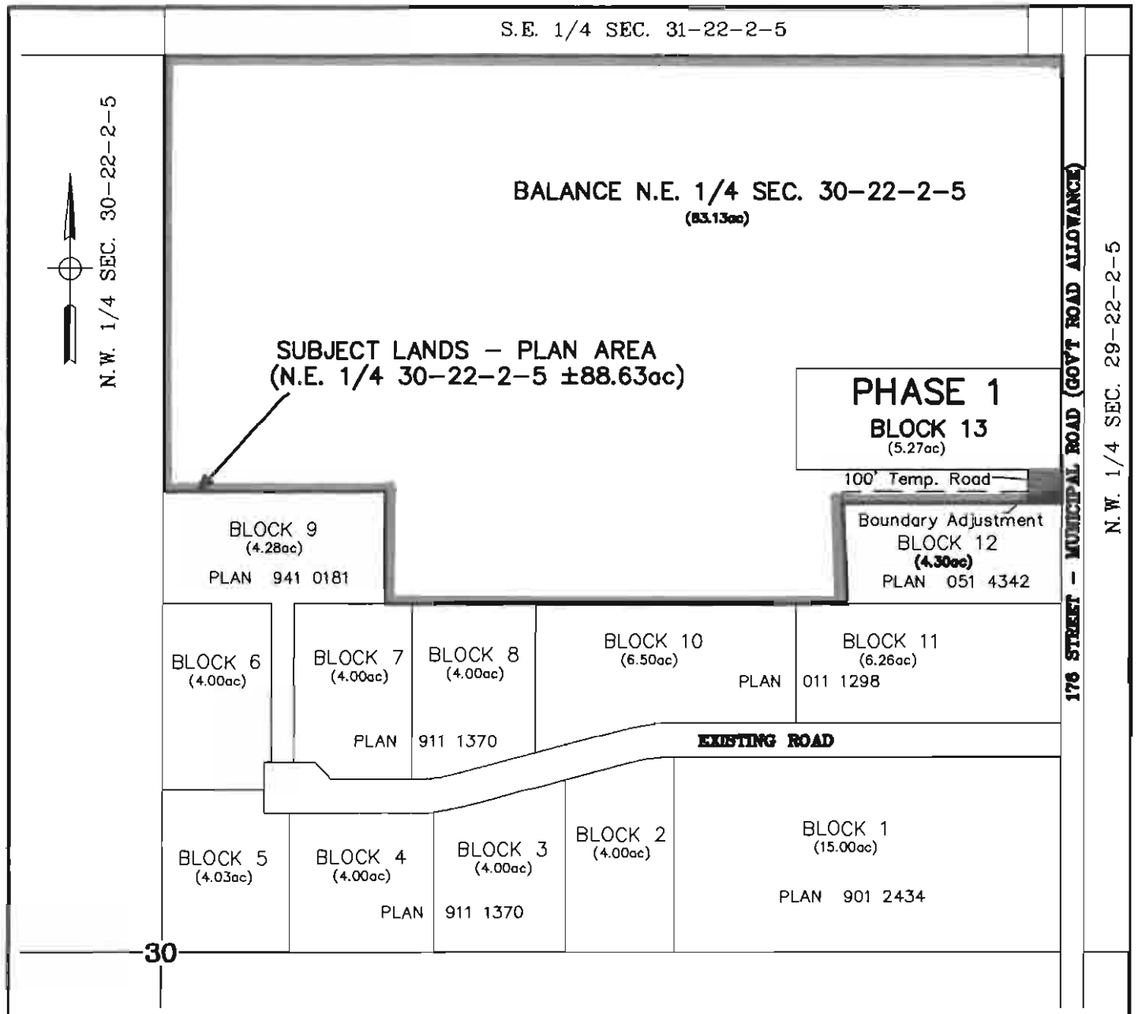
N.E.1/4-30-22-2-5

DRAWN: M.M.V.

DATE: JAN. 22, 2007

CAD File Name: 06-1698S-S1

TRONNES SURVEYS (1976) LTD. 110, 3030 – 3rd Avenue N.E., Calgary, Alberta T2A 6T7; 403-207-0303



LEGEND

- ☐ PROPOSED COUNTRY RESIDENTIAL LOTS
- ■ NEW ROAD
- ■ BALANCE

ER – ENVIRONMENTAL RESERVE (BLK 18)

Bayly

SUBDIVISION PATTERNS

SCALE: 1:5000

0 25 50 100 250 500

METRES

AREA STRUCTURE PLAN

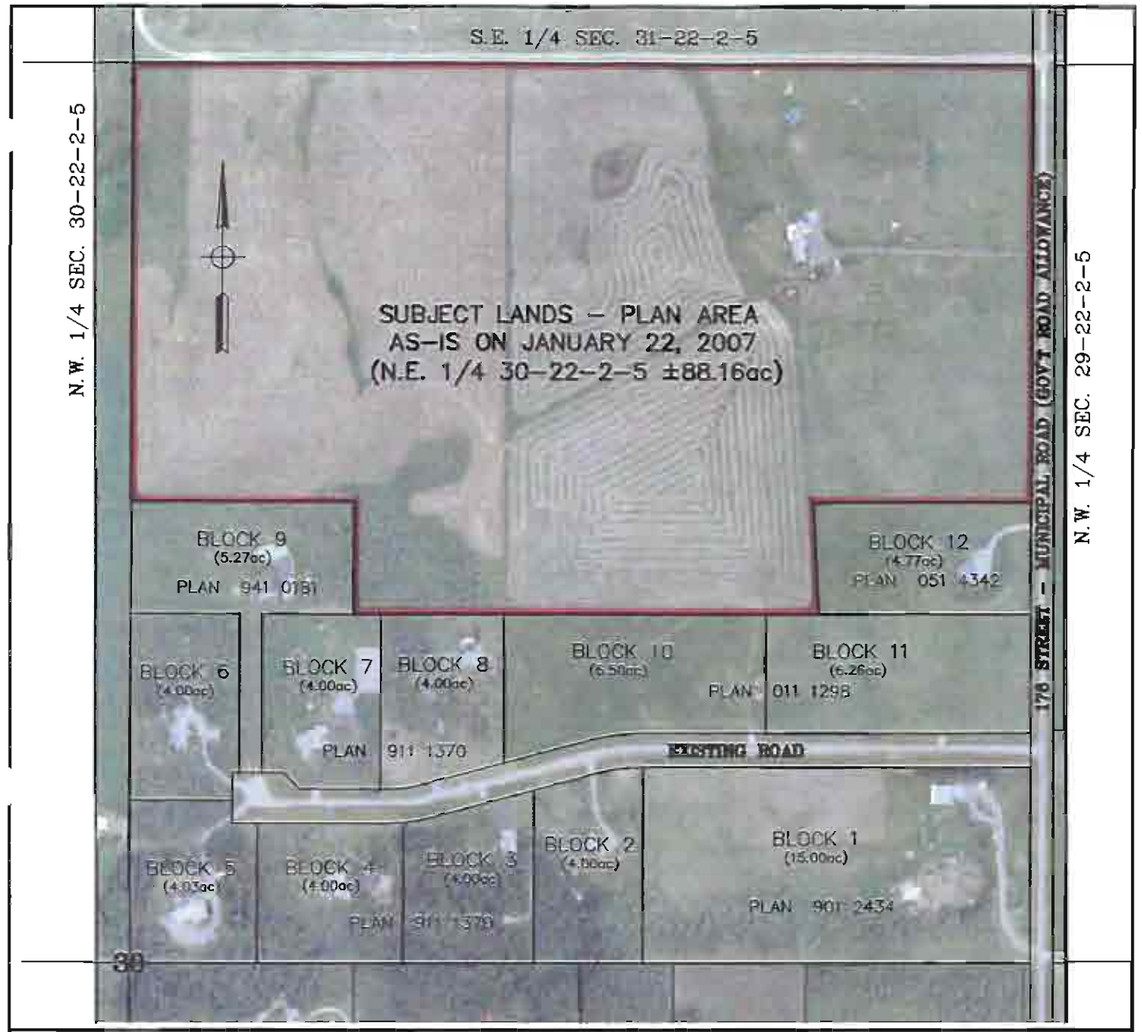
N.E.1/4–30–22–2–5

DRAWN: M.M.V.

DATE: MAY 11, 2006

CAD File Name: 06-____S-S1

TRONNES SURVEYS (1976) LTD. 110, 3030 – 3rd Avenue N.E., Calgary, Alberta T2A 6T7; 403-207-0303



LEGEND

OUTLINE OF EXISTING PARCEL

Bayly

EXISTING PARCEL

SCALE: 1:5000

0 25 50 100 250 500

METRES

AREA STRUCTURE PLAN

N.E.1/4-30-22-2-5

DRAWN: M.M.V.

DATE: JAN. 22, 2007

CAD File Name: 06-1698S-S1

TRONNES SURVEYS (1976) LTD. 110, 3030 - 3rd Avenue N.E., Calgary, Alberta T2A 6T7; 403-207-0303

PROPOSED COUNTRY RESIDENTIAL LOTS

NEW ROAD

BALANCE

ER – ENVIRONMENTAL RESERVE (BLK 18)

MR – MUNICIPAL RESERVE (BLK 19)

Bayly

SUBDIVISION PATTERNS

0 25 50 100 250 500

METRES

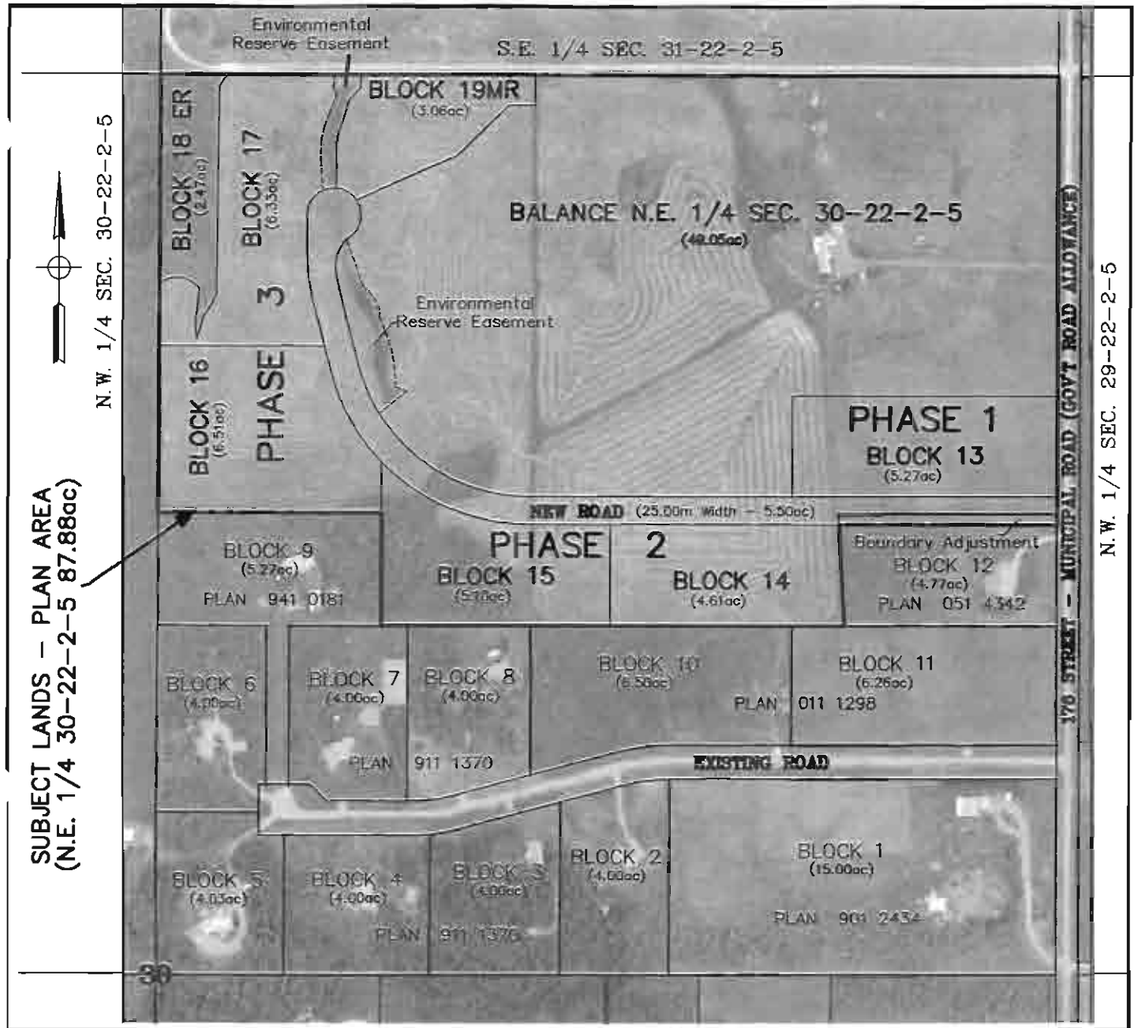
AREA STRUCTURE PLAN

N.E.1/4-30-22-2-5

DRAWN: M.M.V. DATE: JAN. 19, 2007

CAD File Name: 06-18BS-ASP1-2

110, 3030 – 3rd Avenue N.E., Calgary, Alberta T2A 6T7; 403-207-0303



LEGEND

- PROPOSED COUNTRY RESIDENTIAL LOTS
- NEW ROAD
- BALANCE

ER – ENVIRONMENTAL RESERVE (BLK 18)
MR – MUNICIPAL RESERVE (BLK 19)

Bayly

SUBDIVISION PATTERNS

SCALE: 1:5000

0 25 50 100 250 500

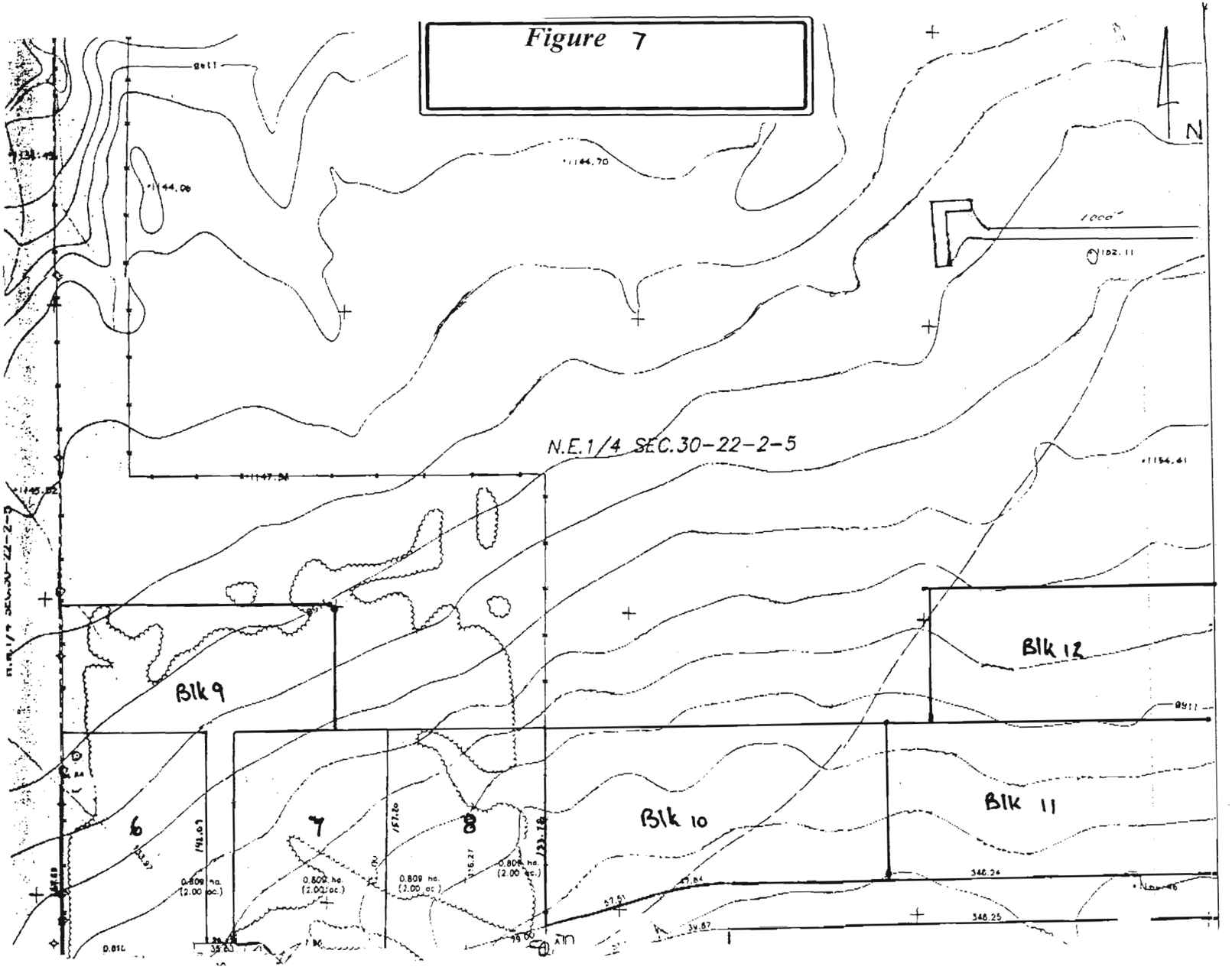
METRES

AREA STRUCTURE PLAN		
N.E.1/4-30-22-2-5	DRAWN: M.M.V.	DATE: JAN. 19, 2007
	CAD File Name: 06-1698S-ASP1-2	

TRONNES SURVEYS (1976) LTD. 110, 3030 – 3rd Avenue N.E., Calgary, Alberta T2A 6T7; 403-207-0303


Environmental
Reserve Easement
S.E. 1/4 SEC. 31-22-2-5
N.W. 1/4 SEC. 30-22-2-5
BALANCE N.E. 1/4 SEC. 30-22-2-5
Environmental
Reserve Easement
PHASE 1
PHASE 2
PHASE 3
BLOCK 9
PLAN 941 0181
Boundary Adjustment
BLOCK 12
PLAN 051 4342
BLOCK 6
BLOCK 7
BLOCK 8
BLOCK 10
BLOCK 11
PLAN 011 1298
PLAN 911 1370
BLOCK 5
BLOCK 4
BLOCK 3
BLOCK 2
BLOCK 1
PLAN 911 1370
PLAN 901 2434
N.W. 1/4 SEC. 29-22-2-5
PROPOSED COUNTRY RESIDENTIAL LOTS
NEW ROAD
BALANCE
ER – ENVIRONMENTAL RESERVE (BLK 18)
MR – MUNICIPAL RESERVE (BLK 19)
SUBDIVISION PATTERNS
0 25 50 100 250 500
METRES
AREA STRUCTURE PLAN
N.E. 1/4 - 30 - 22 - 2 - 5
DRAWN M.A.V.
DATE JAN. 19, 2001
CAD File Name: 06-16585-ASP1-2
110, 3030 – 3rd Avenue N.E. Calgary, Alberta T2A 6T7; #02-207-0302

Figure 7


N
1000'
N.E.1/4 SEC.30-22-2-5
Blk 9
Blk 12
Blk 10
Blk 11
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7
8
0.809 ha. (2.00 ac.)
0.809 ha. (2.00 ac.)
0.809 ha. (2.00 ac.)
0.809 ha. (2.00 ac.)
346.24
346.25

Attachment 1

ALBERTA REGISTRIES

LAND TITLE CERTIFICATE

S
LINC 0031 468 978
SHORT LEGAL 5;2;22;30;NE
TITLE NUMBER 051 478 711 +1

LEGAL DESCRIPTION

MERIDIAN 5 RANGE 2 TOWNSHIP 22
SECTION 30
QUARTER NORTH EAST
CONTAINING 64.7 HECTARES (160 ACRES) MORE OR LESS
EXCEPTING THEREOUT:

PLAN	NUMBER	HECTARES	(ACRES)	MORE OR LESS
DESCRIPTIVE	9012434	6.07	15.0	
SUBDIVISION	9111370	13.6	33.6	
SUBDIVISION	9410181	2.31	5.71	
SUBDIVISION	0111298	5.16	12.76	
SUBDIVISION	0514342	1.93	4.77	

EXCEPTING THEREOUT ALL MINES AND MINERALS

ESTATE: FEE SIMPLE

MUNICIPALITY: MUNICIPAL DISTRICT OF FOOTHILLS NO. 31

REFERENCE NUMBER: 011 131 743 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
051 478 711	15/12/2005	SUBDIVISION PLAN		

OWNERS

VICTOR BAYLY

AND
PHYLLIS F BAYLY
BOTH OF:
SITE 14, BOX 23, R.R. 8
CALGARY
ALBERTA
AS JOINT TENANTS

(CONTINUED)

ENCUMBRANCES, LIENS & INTERESTS

PAGE 2
051 478 711 +1

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
1336LH .	09/02/1972	CAVEAT CAVEATOR - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED.
781 141 997	06/09/1978	UTILITY RIGHT OF WAY GRANTEE - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED.
911 198 648	05/09/1991	RESTRICTIVE COVENANT
051 478 712	15/12/2005	CAVEAT RE : DEFERRED RESERVE CAVEATOR - THE MUNICIPAL DISTRICT OF FOOTHILLS NO. 31. BOX 5605 HIGH RIVER ALBERTA T1V1M7 AGENT - JUDY GORDON

TOTAL INSTRUMENTS: 004

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 17 DAY OF MAY, 2006 AT 03:11 P.M.

ORDER NUMBER:5320060

CUSTOMER FILE NUMBER:

REGISTRAR OF LAND TITLES

END OF CERTIFICATE

Attachment 2

ALBERTA REGISTRIES

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0031 468 986	0514342;12;1	051 478 711

LEGAL DESCRIPTION
PLAN 0514342
BLOCK 12
LOT 1
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 1.93 HECTARES (4.77 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 5;2;22;30;NE

MUNICIPALITY: MUNICIPAL DISTRICT OF FOOTHILLS NO. 31

REFERENCE NUMBER: 011 131 743 +2

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
051 478 711	15/12/2005	SUBDIVISION PLAN		

OWNERS

VICTOR BAYLY

AND
PHYLLIS F BAYLY
BOTH OF:
SITE 14, BOX 23, R.R. 8
CALGARY
ALBERTA
AS JOINT TENANTS

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
1336LH	09/02/1972	CAVEAT CAVEATOR - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED.
781 141 997	06/09/1978	UTILITY RIGHT OF WAY GRANTEE - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED.
911 198 648	05/09/1991	RESTRICTIVE COVENANT

TOTAL INSTRUMENTS: 003

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 13 DAY OF JULY, 2006 AT 12:32 P.M.

ORDER NUMBER:5796827

CUSTOMER FILE NUMBER:

END OF CERTIFICATE

Alberta Soil Information Viewer

Contact U
Search

Location: Alberta Government Home > Ropin' The Web Home > Alberta Soil Information Viewer

Home | About | Help | Configure | Layers | Legend | Find Location | Locate Township | Select | Refres

Identify Results

Metadata

Soil Polygon Information			
Polygon Number	11893		
Hectacres	3644.92260000000		
Lsrs Rating	3HT(6) - 3HM(2) - 5W(2)		
MUNAME	MFT9/U1h		
Soil Components			
Percent	60	20	20
Series	MAYCROFT	MISC.COARSE-ZBL	MISC.GLEYSOL
Drainage	W	W	P
MAS PM	M3	C0	U0
SG	O.BLC	O.BLC	O.HG
Component	1	2	3

Coordinate Position
Geographic: 50° 54' 14" N, 114° 15' 42" W

Click on the button to the right to get textual and visual landscape information for the currently identified soil polygon. More Info

Click on the button to the right to print Identify Results. Print Results

Scale: 1:25,000 go Map Tool: **Identify** Active Layer: **Soil Information**


Copyright © Alberta Agriculture, Food and Rural D
Map center: 50° 54' 2" N, 114° 16' 4" W

MAYCROFT

INTERPRETATION GUIDELINES

SCA 8

09/01/93

SOIL SERIES:	MAYCROFT (MFT)	LANDFORM:	BLANKET
SOIL ZONE:	THICK BLACK	TYPICAL SLOPES:	0-5%
SOIL CLASSIFICATION:	ORTHIC BLACK CHERNOZEMIC	USUAL SOIL MOISTURE:	MESIC
PARENT MATERIAL:	MODERATELY FINE GLACIOLACUSTRINE	SURFACE STONINESS:	NON

TYPICAL SOIL PROFILE:

Horizon	Depth	Color Code	Color Name	Structure	Consistence	Texture	O.C.	pH	EC	Sat%	SAR
AP	0-7	10YR 2/1	BLACK	MMGR	FR	CL	7.6	6.3			
AH	7-24	10YR 2/1	BLACK	MMGR	FR	CL	6.5	6.3			
BM	24-58	10YR 5/3	BROWN	WFSBK	F	SICL	1.3	6.2			
CK1	58-64	2.5Y 5/4	LIGHT OLIVE BROWN	MA	FR	L		7.7			
CK2	64-90	2.5Y 5/4	LIGHT OLIVE BROWN	MA	FR	SIL		7.5			
CK3	90-105	2.5Y 5/4	LIGHT OLIVE BROWN	MA	F	SICL-CL		7.7			

SOIL QUALITY RATINGS:

Horizon	Depth	Consistence	Texture	O.C.	pH	EC	Sat%	SAR	Overall Rating
	0-7	G	F	G	F				F (Topsoil)
	7-24	G	F	G	F				F (Topsoil)
BM	24-58	F	F		F				F (Subsoil)
CK1	58-64	G	G		F				F (Subsoil)
CK2	64-90	G	G		G				G (Subsoil)
CK3	90-105	F	F		F				F (Subsoil)

TOPSOIL INTERPRETATIONS:

TYPICAL THICKNESS:	25 cm
THICKNESS RANGE:	15-35 cm
COLOR CHANGE TO SUBSOIL:	OBVIOUS
STRIPPING LIMITATIONS:	VERY THICK
WIND EROSION RISK:	LOW
WATER EROSION K=:	0.032
RISK ON <5% SLOPE:	LOW
RISK ON 5-9% SLOPE:	LOW
RISK ON 9-15% SLOPE:	MODERATE

SUBSOIL (TO 1.5 M) INTERPRETATIONS:

SEASONALLY HIGH W.T.:	NO
HARD BEDROCK:	NO
NON-SODIC SOFTROCK:	NO
SODIC SOFTROCK:	NO
GRAVEL:	NO
STONY LAYER:	NO
FACE INSTABILITY:	NO
SOLONETZIC B HORIZON:	NO
SALINE OR SODIC LOWER SUBSOIL:	NO
IMPORTANT TEXTURE CHANGE:	NO

NOTES: THESE SOILS ARE DEVELOPED ON MODERATELY FINE TEXTURED GLACIOLACUSTRINE DEPOSITS VARYING FROM SILT LOAM TO CLAY LOAM TO SILTY CLAY LOAM.

Attachment 3

Attachment 4

RESTRICTIVE COVENANT

WHEREAS PARKSIDE MANAGEMENT LTD. of the City of Calgary, in the Province of Alberta (the "Grantor") is the registered owner of the lands described in Schedule "A" hereto and forming part of this Restrictive Covenant (the "Grantor Lands") and Victor Bayly and Phyllis Bayly ("Bayly") are the registered owners of the lands described in Schedule "B" hereto and forming part hereof (the "Lands");

AND WHEREAS the Grantor has sold the Lands to Bayly pursuant to the terms and conditions of a certain Real Estate Purchase Contract in writing dated the 22nd day of February, 1991 (the "Purchase Contract");

AND WHEREAS it was a term of the Purchase Contract that certain restrictions and covenants would be imposed upon the Lands and that the Lands shall be conveyed subject to the restrictions, covenants and limitations hereinafter set forth;

NOW THEREFORE THIS DEED WITNESSETH that in consideration of the foregoing, the Grantor and the Grantee do hereby for themselves, their transferees and successors in title, covenant and agree as follows:

1. The Lands shall be subject to the restrictions and conditions herein set forth which shall be deemed to be covenants running with the Lands and appended to the Lands and shall be binding upon and enure to the benefit of the Grantor Lands.

1.1 No building upon the Lands shall have an exterior consisting of any material other than:

OF THE PRINCIPAL RESIDENCE

(a) The roofing/ shall consist of either shakes or tiles;

(b) The color of all ancillary buildings shall match that of the principal residence upon the Lands;

(c) The exterior colors of all buildings upon the Lands shall be earth tone in nature.

2. Any and all dogs belonging to the Grantee shall be contained within the boundaries of the Lands and the Grantee shall take all such steps as are reasonably necessary to prevent such dogs from excessive barking.

3. No donkeys shall be allowed upon the Lands.

4. The Lands shall not be utilized at any time as a dog kennel for commercial purposes.

5. No covenant herein shall be deemed to restrict any provision of any development control by-law, development control resolution, zoning regulation or land use regulation or other similar by-law resolution or regulation, passed or imposed by any governmental authority and the covenants herein are to be considered as additional restrictions.

6. Any provisions of this Agreement made void or rendered invalid by any law in force in the Province of Alberta or adjudged not to be a covenant running with the land shall not invalidate or render unenforceable the remaining provisions of this Agreement.

IN WITNESS WHEREOF the Grantor and the Grantee have each executed this Agreement in the City of Calgary, in the Province of Alberta, this 4th day of May, A.D. 1991.

[redacted]

Per: [redacted] C/S

[redacted]

Signatures continued on next page

VICTOR BAYLY

Witness to the signatures
of Victor Bayly and
Phyllis Bayly

PHYLLIS BAYLY

ZAMOR.456

Attachment 5

#00133

Groundwater Supply Evaluation
Bayly wells: NE-30-22-02-W5M

Submitted to:

Aaron Drilling Inc. and
Vic Bayly

Prepared by:

Groundwater Exploration & Research Ltd.
September 2000

Groundwater
Exploration & Research

Groundwater Exploration & Research LTD

Box 15
Balzac, AB. CANADA T0M 0E0
Phone (403) 226-0330: Fax (403) 226-6593: Email: nowakb@cadvision.com

September 28, 2000
File No: 00133

Aaron Drilling Inc.
Box 28, Site 9, RR1
DeWinton, AB
T0L 0X0

Attention: Mr. Brad Meyers

RE: Proposed subdivision of the Bayly property at NE-30-22-02-W5M Municipal District of Foothills

Enclosed find our letter report which summarizes well completion details; includes a table of pump test data; a graph of the drawdown and recovery data from a field test conducted on the well; and makes a recommendation with respect to the calculated Q_{20} and potential well interference for two wells at the above captioned location.

1.0 Background Information

The subject property is located southwest of the City of Calgary and north of Highway 22X on 176 Street West. The parcel in question is an existing +/-42.90 hectare [106 acre] parcel from which two +/-2.43 hectare [6 acre] parcels will be created. This report addresses the results of a flow test conducted on a production well drilled on each of the 2 new lots.

2.0 Existing Licenced Users

A review of existing Alberta Environmental Protection groundwater licences indicates no licenced users within an 800 meter radius of the new production wells. Operation of the domestic well will not, therefore, interfere with any licenced user existing at the time of subdivision application.

3.0 Well Interference

Country residential subdivision is subject to the following sections of the Water Act and the Water Regulation:

Section 23(3) of the Water Act states:

If after this Act comes into force, a subdivision of land of a type or class of subdivision specified in the regulations is approved under the Municipal Government Act, a person residing within that subdivision on a parcel of land that adjoins or is above a source of water described in section 21 has the right to commence and continue the diversion of water under section 21 only if

(a) a report certified by a professional engineer, professional geologist, or professional geophysicist, as defined in the Engineering, Geological and Geophysical Professions Act, was submitted to the subdivision authority as part of the application for the subdivision under the Municipal Government Act, and the report states that the diversion of 1250 cubic meters of water per year for household purposes under section 21 for each of the households within the subdivision will not interfere with any household users, licensees, or traditional agriculture users who exist when subdivision is approved, and

(b) **the diversion of water for each household within the subdivision under section 21 is not inconsistent with an applicable approved water management plan**

Section 9(1) of the Water Regulation states:

Subject to subsection (2), a type of subdivision of land for the purposes of section 23(3) of the Act is a subdivision that results in 6 or more parcels of land in a quarter section or in a river lot.

In essence, Section 23(3) of the Water Act asks two basic questions:

[a] Is there sufficient water to satisfy the maximum requirement of 1250 m^3/year for each lot in the proposed subdivision?

[b] Will the allocated volume of water per lot result in a significant adverse effect on neighbouring wells and licenced users existing at the time of subdivision application?

With respect to the potential for well interference as indicated in Section 23(3) of the Water, a calculation for well interference, neglecting recharge, at any given distance from the pumping well can be determined from:

$$u = r^2S/4Tt \text{ and}$$

$$s = QW(u)/4*pi*T$$

where:

u and W(u)	=	well function parameters
T	=	transmissive capacity in m^2/day calculated from actual pump test data
S	=	coefficient of storage, dimensionless
t	=	20 years of continuous pumping, in days
r	=	distance between pump well and neighbouring well, in meters
s	=	projected drawdown at neighbouring well
Q	=	pumping rate of 1250 m^3/year or 3.42 m^3/day

4.0 Well #4160

4.1 Well Completion Details (Well #4160)

Total Depth:		35.06 meters
Non-Pumping Water Level:		11.28 meters below top of casing
Surface Casing:		168 mm set to 11.59 meters
Liner:		127 mm PVC set from 10.67 to 35.06 meters; perforated from 28.96 to 35.06 meters
Drilling Contractor:		Aaron Drilling Inc.
Pump Test Contractor:		Aaron Drilling Inc.
Date Drilled:		September 16, 2000
Lithology:	0.00 - 0.30	topsoil
	0.30 - 7.62	till
	7.62 - 17.38	brown sandstone
	17.38 - 19.21	grey shale
	19.21 - 21.95	sandstone
	21.95 - 25.00	green shale
	25.00 - 27.74	sandstone
	27.74 - 28.96	grey shale
	28.96 - 32.93	water bearing sandstone
	32.93 - 35.06	grey shale

4.2 Well Test Results

Well #4160 was pump tested at a rate of 19.64 m^3/day [3.0 Cgpm] for a period of 790 minutes followed by 590 minutes of recovery. Water level measurements were recorded automatically using a 100-psig pressure transducer and data logger supplied and installed by Aaron Drilling Inc.

The maximum drawdown was observed to be 10.11 meters after 780 minutes of pumping. Recovery was 94.8% complete within 590 minutes of termination of pumping.

The maximum available drawdown, measured from the non-pumping water level of 11.28 meters, and the top of the water bearing sandstone at 28.96 meters is 17.68 meters.

Transmissive capacity has been determined graphically using the Cooper and Jacob semilog plot method, with transmissive capacity based usually on the final limb of the curve according to:

$$T = 2.3Q/4*pi*delta\ s$$

where: T = transmissive capacity, in m^2/day
Q = pump rate, in m^3/day
s = drawdown over one log cycle

and by the Sheahan Z(u) method.

Transmissive capacity, determined from both drawdown and residual drawdown data, and the Z(u) method is summarized as follows:

Stage	Delta s	Transmissivity
drawdown	4.04	0.89
residual drawdown	3.53	1.02
Z(u)		0.98

Based on the above data, the transmissive capacity is 0.96 m^2/day based on the most conservative value. It should be noted that the calculated transmissive capacity value is time dependent, flow rate dependent [particularly for fractured or stratified heterogeneous media] and reflects the response of an aquifer for the particular time of the year during which the test was conducted.

The 20 year, long term safe yield index (Q_{20}), neglecting well loss, is determined from the equation:

$$\mathbf{Q_{20} = 0.683TH}$$

where: Q20 = 20 year, long term safe yield, in m^3/day

T = effective transmissive capacity, in m^2/day

H = available drawdown, in meters

The calculation of the 20 year safe yield index for an aquifer, assuming isotropic, homogeneous conditions is derived by extrapolating a downward trend so that the available drawdown lasts for 20 years. This approach neglects the effects of recharge, and is, therefore, a conservative approach.

It is common practice to adjust the Q_{20} by a safety factor to account for unknown boundary conditions due to test duration, well deterioration, well inefficiency, seasonal variability in non-pumping water level and errors associated with assuming isotropic, homogeneous aquifer conditions.

Based on a factor of safety of 1.5 the calculated Q_{20} is 7.73 m^3/day (1.2 Cgpm).

In accordance with the Water Act, every household user is entitled to divert up to a maximum of 1250 cubic meters per year or 3.42 m^3/day. Based on well test data, Well #4160 is capable of providing the allotted 1250 m^3/year.

4.3 Well Interference Calculation

The parameters used in the well interference calculation are:

transmissive capacity:	T = 0.96 m^2/day [determined from pump test]
coefficient of storage:	S = 5.0 E-4 [estimated]
pump rate per well:	Q = 3.42 m^2/day [753 gpd]

Based on the nearest neighbor approach, the projected drawdowns, after 20 years of continuous pumping, and neglecting recharge, are tabulated as follows:

Residence	Direction	Separation Distance (m)	Projected Drawdown (m)
House #1	south	101	2.28
Well #4163	west	144	2.08
House #2	southeast	214	1.85
House #3	southwest	326	1.61
House #4	north	388	1.51
House #5	west	392	1.50

The calculation for well interference is based on the premise that all neighboring wells are completed in the same water-bearing unit and are therefore in direct hydraulic connection. This premise reflects a worst-case condition. If neighboring wells are completed at substantially different depths taking into account topographic change, the projected drawdown has limited significance. If neighboring wells are completed at similar depths but the water bearing zones are not in direct hydraulic connection, the projected drawdown will be less than that calculated for direct hydraulic connection. The above table indicates that theoretical well interference effects can be up to 2.28 meters.

Water well information within the NE-30 quarter section was reviewed to determine if the projected well interference is significant. The well data for the nearest neighbour wells is tabulated as follows:

Well Owner	Date	Td/Npwl (m)	Production* Interval (m)	Available Drawdown (m)
Parkside Mgmt	Jun 91	73.2/14.6	59.5-68.0	40.2
Parkside Mgmt	Jul 91	24.4/8.5	20.7-22.3	12.2
Parkside Mgmt	Jul 91	32.0/14.6	25.0-25.9	10.4
Parkside Mgmt	Jul 91	24.4/10.4	12.8-14.6	2.4
Cameron	Jun 69	35.1/12.2	24.4-35.1	12.2
Traber	Nov 90	48.8/13.7	36.0-44.2	22.3
Bayly	Apr 91	54.9/15.2	49.7-54.9	34.5
Bayly	Jul 93	9.1/1.8	7.6-9.1	5.8 (sagr)
Bayly (4160)	Sep 00	35.1/11.3	29.0-32.9	17.7
Bayly (4163)	Sep 00	35.1/10.4	29.6-35.1	19.2

* Production interval equals perforated zone or identified water bearing unit

A review of the above water well data indicates:

[a] a similarity in non-pumping water level, notwithstanding a potential elevation change of 15 meters and a duration of 1991 to 2000;

[b] a lack of correlation between production intervals for the various wells;

[c] sufficient available drawdown to accommodate a projected maximum well interference of 2.28 meters.

In addition, the bedrock dip in the Priddis area can be in excess of 55 ° since the area lies within the Turner Valley thrust belt. Because of the steep dip, water bearing zones can not be correlated laterally for any large distances.

5.0 Well #4163

5.1 Well Completion Details (Well #4163)

Total Depth:		35.06 meters
Non-Pumping Water Level:		10.27 meters below top of casing
Surface Casing:		168 mm set to 11.59 meters
Liner:		127 mm PVC set from 10.67 to 35.06 meters; perforated from 28.96 to 35.06 meters
Drilling Contractor:		Aaron Drilling Inc.
Pump Test Contractor:		Aaron Drilling Inc.
Date Drilled:		September 7, 2000
Lithology:	0.00 - 0.30	topsoil
	0.30 - 5.79	till
	5.79 - 20.73	brown sandstone
	20.73 - 22.26	grey shale
	22.26 - 25.30	wet sandstone
	25.30 - 29.57	green shale
	29.57 - 33.54	water bearing sandstone
	33.54 - 35.06	grey shale

5.2 Well Test Results

Well #4163 was pump tested at a rate of 19.64 m^3/day [3.0 Cgpm] for a period of 770 minutes followed by 1150 minutes of recovery. Water level measurements were recorded automatically using a 100-psig pressure transducer and data logger supplied and installed by Aaron Drilling Inc.

The maximum drawdown was observed to be 6.24 meters after 770 minutes of pumping. Recovery was 93.9% complete within 1150 minutes of termination of pumping.

The maximum available drawdown, measured from the non-pumping water level of 10.27 meters, and the top of the water bearing sandstone at 29.57 meters is 19.30 meters.

Transmissive capacity has been determined graphically using the Cooper and Jacob semilog plot method, with transmissive capacity based usually on the final limb of the curve according to:

$$T = 2.3Q/4*pi*delta\ s$$

where: T = transmissive capacity, in m^2/day
Q = pump rate, in m^3/day
s = drawdown over one log cycle

and by the Sheahan Z(u) method.

Transmissive capacity, determined from both drawdown and residual drawdown data, and the Z(u) method is summarized as follows:

Stage	Delta s	Transmissivity
drawdown	2.79	1.29
residual drawdown	2.01	1.79
Z(u)		1.42

Based on the above data, the geometric mean transmissive capacity is 1.49 m^2/day. It should be noted that the calculated transmissive capacity value is time dependent, flow rate dependent [particularly for fractured or stratified heterogeneous media] and reflects the response of an aquifer for the particular time of the year during which the test was conducted.

The 20 year, long term safe yield index (Q_{20}), neglecting well loss, is determined from the equation:

$$\mathbf{Q_{20} = 0.683TH}$$

where: Q20 = 20 year, long term safe yield, in m^3/day

T = effective transmissive capacity, in m^2/day

H = available drawdown, in meters

The calculation of the 20 year safe yield index for an aquifer, assuming isotropic, homogeneous conditions is derived by extrapolating a downward trend so that the available drawdown lasts for 20 years. This approach neglects the effects of recharge, and is, therefore, a conservative approach.

It is common practice to adjust the Q_{20} by a safety factor to account for unknown boundary conditions due to test duration, well deterioration, well inefficiency, seasonal variability in non-pumping water level and errors associated with assuming isotropic, homogeneous aquifer conditions.

Based on a factor of safety of 1.5 the calculated Q_{20} is 13.09 m^3/day (2.0 Cgpm).

In accordance with the Water Act, every household user is entitled to divert up to a maximum of 1250 cubic meters per year or 3.42 m^3/day. Based on well test data, Well #4163 is capable of providing the allotted 1250 m^3/year.

5.3 Well Interference

The parameters used in the well interference calculation are:

transmissive capacity: T = 1.49 m^2/day [determined from pump test]
coefficient of storage: S = 5.0 E-4 [estimated]
pump rate per well: Q = 3.42 m^2/day [753 gpd]

Based on the nearest neighbor approach, the projected drawdowns, after 20 years of continuous pumping, and neglecting recharge, are tabulated as follows:

Residence	Direction	Separation Distance (m)	Projected Drawdown (m)
Well #4160	east	144	1.43
House #1	southeast	206	1.29
House #2	southwest	239	1.24
House #3	west	254	1.22
House #4	southwest	295	1.16
House #5	northeast	337	1.12
House #6	southeast	355	1.10

The calculation for well interference is based on the premise that all neighboring wells are completed in the same water-bearing unit and are therefore in direct hydraulic connection. This premise reflects a worst-case condition. If neighboring wells are completed at substantially different depths taking into account topographic change, the projected drawdown has limited significance. If neighboring wells are completed at similar depths but the water bearing zones are not in direct hydraulic connection, the projected drawdown will be less than that calculated for direct hydraulic connection. The above table indicates that theoretical well interference effects are less than 1.43 meters.

Non-pumping groundwater levels can typically vary by 1.5 meters over the course of a single season. When the projected drawdown is less than the anticipated seasonal change, a significant adverse effect can not be measured with any degree of confidence.

6.0 Summary of Findings

Based on the results of the flow test and a review of the available groundwater well information, the following conclusions have been drawn:

[1] Each of the two groundwater production wells are capable of providing a maximum of 3.42 m^3/day [1250 m^3/year] for the proposed two +/-2.43 hectare [6 acre] parcels.

[2] Pumping of the new wells will not result in any significant adverse effect on neighboring wells or licenced users existing at the time of subdivision application.

[3] It should be noted that the Water Act indicates a maximum of 1250 cubic meters per year [3.42 m^3/day] is allocated to each rural household user and that any volume above this limit requires a licence from Alberta Environmental Protection. The Water Act does not imply that the 1250 m^3/year is the amount required to sustain a rural household residence. Under a proposed revision to Alberta Environmental Protection's June 27, 1994 guideline, the minimum amount deemed necessary to sustain a rural household user is 1.82 m^3/day [400 gpd].

[4] The calculation for well interference, based on the maximum 1250 cubic meters per year, reflects therefore, an overestimation of theoretical projected drawdown.

7.0 Closure

A chemical analysis of the well water was not available at the time of report writing. The well owner should be aware, in accordance with Alberta Environment document Interim Guidelines For The Evaluation of Groundwater Supply For Unserviced Residential Subdivisions Using Privately Owned Domestic Water Wells (June 27, 1994) that additional information may be required with this report, particularly chemical and bacteriological analysis of the well water. Of primary concern is any impact on the water quality due to contamination from septic fields, small agricultural operations or hydrogen sulphide gas odours.

If you have any questions or comments regarding the conclusions drawn in this groundwater supply evaluation, contact the undersigned at your convenience. Thanking you for the opportunity to have been of service to Aaron Drilling Inc. and Mr. Vic Bayly, we remain,

Respectfully yours,
Groundwater Exploration & Research Ltd.

Bob Nowak

Bob Nowak: Ph.D., P.Geol.
Groundwater Geologist

PROFESSIONAL GEOLOGIST ALBERTA
ROBERT L. NOWAK

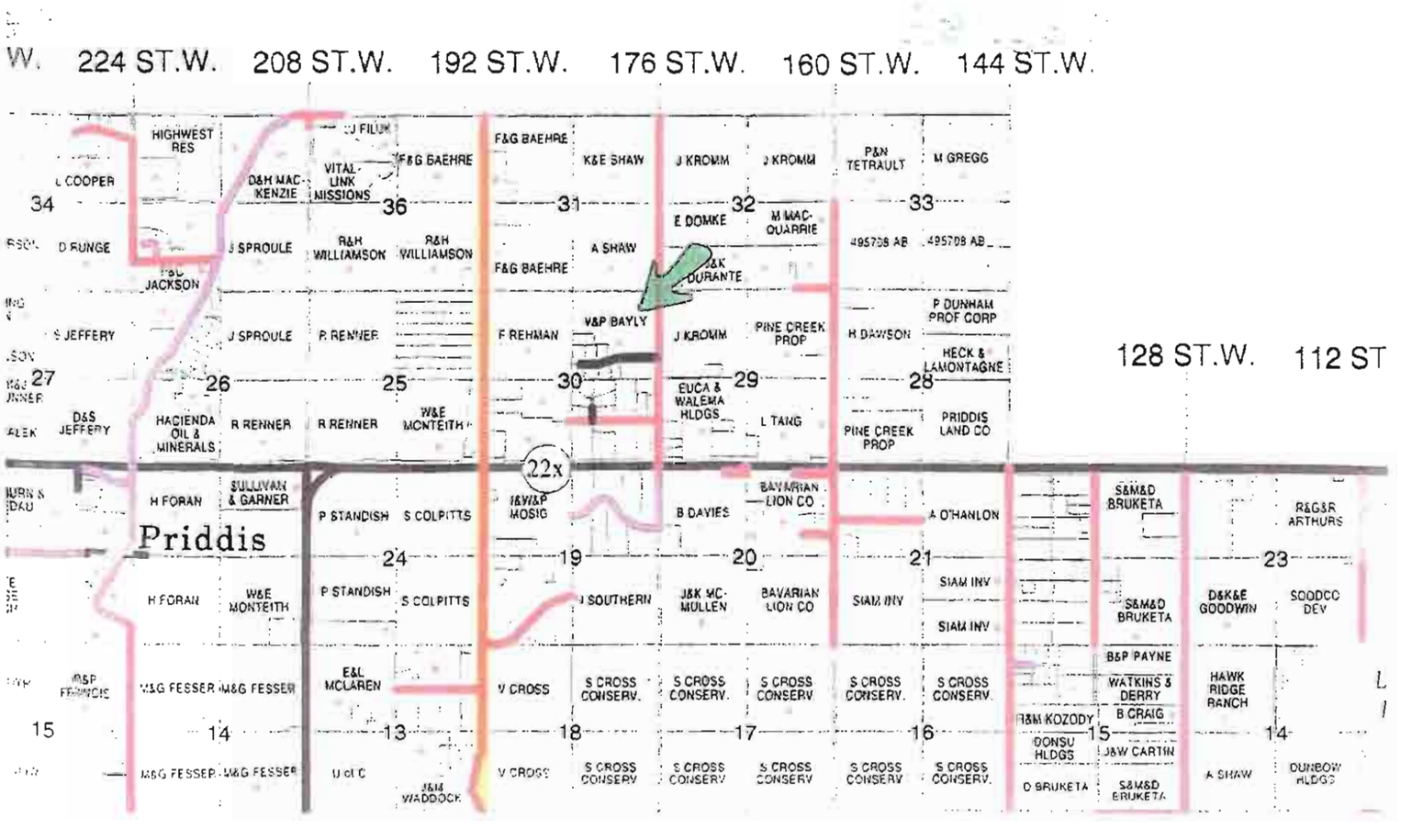
PERMIT TO PRACTICE
Groundwater Exploration & Research Ltd.
Signature R. Nowak
Date
PERMIT NUMBER: P 3471
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Appendix A

Well #4160

Groundwater

Exploration & Research


W.
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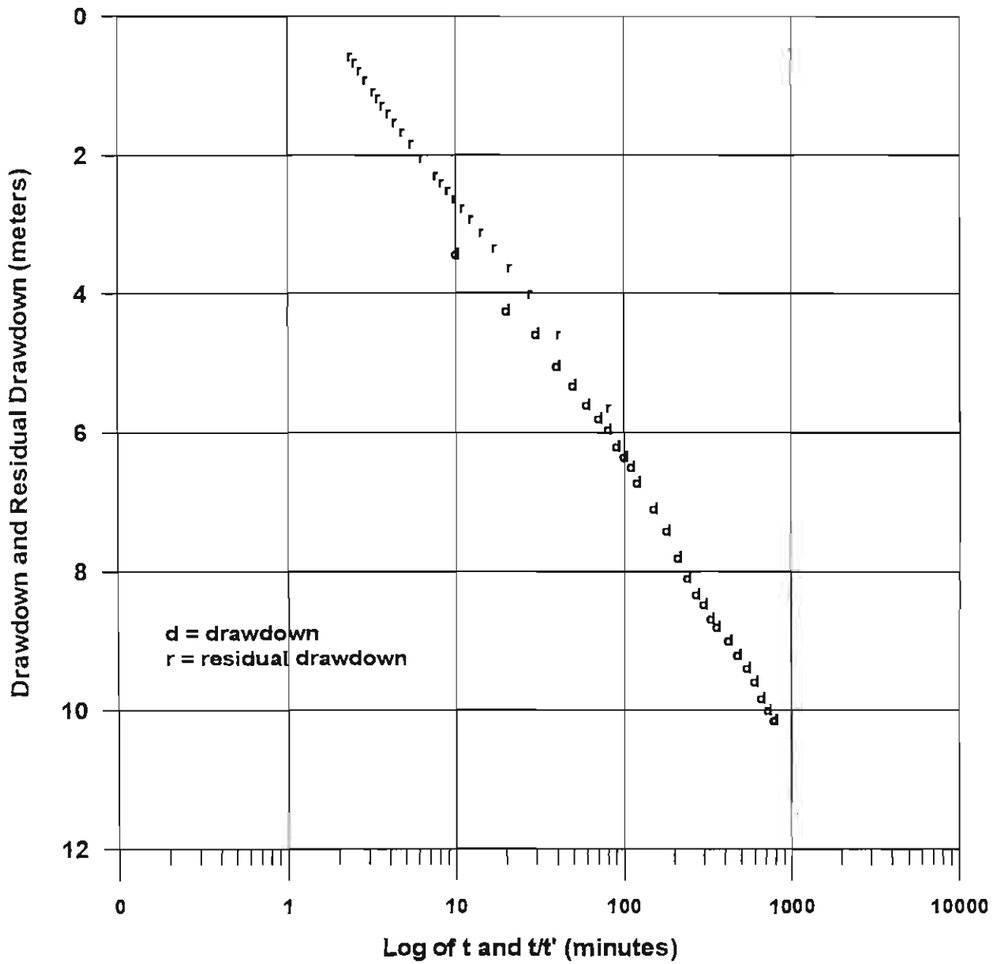
208 ST.W.
192 ST.W.
176 ST.W.
160 ST.W.
144 ST.W.
128 ST.W.
112 ST
Priddis
HIGHWEST RES
L COOPER
D&H MAC-KENZIE
VITAL LINK MISSIONS
F&G BAEHRE
K&E SHAW
J KROMM
P&N TETRAULT
M GREGG
34
36
31
32
33
D RUNGE
J SPROULE
R&H WILLIAMSON
A SHAW
E DOMKE
M MAC-QUARRIE
495708 AB
S JEFFERY
P RENNER
V&P BAYLY
PINE CREEK PROP
R DAWSON
P DUNHAM PROF CORP
HECK & LAMONTAGNE
27
26
25
30
29
28
D&S JEFFERY
HACIENDA OIL & MINERALS
W&E MONTEITH
EUCA & WALEMA HLDGS
L TANG
PRIDDIS LAND CO
22x
H FORAN
SULLIVAN & GARNER
P STANDISH
S COLPITTS
I&W&P MOSIG
B DAVIES
BAVARIAN LION CO
A O'HANLON
S&M&D BRUKETA
R&G&R ARTHURS
24
19
20
21
23
W&E MONTEITH
J SOUTHERN
J&K MC-MULLEN
SIAM INV
D&K&E GOODWIN
SOODCO DEV
E&L MCLAREN
V CROSS
S CROSS CONSERV.
B&P PAYNE
WATKINS & DERRY
HAWK RIDGE RANCH
B CRAIG
15
14
13
18
17
16
15
14
R&M KOZODY
DONSU HLDGS
J&W CARTIN
S&M&D BRUKETA
A SHAW
DUNBOW HLDGS
M&G FESSER
J&M WADDOCK

Pump Test Data
NE-30-22-02-W5M

Project: Bayly Well #4160
Date: September 15 - 16, 2000
Non-Pumping Water Level: 11.28 meters, below top of casing
Pump Test Rate: 19.64 m^3/day (3.0 Cgpm)
Test Duration: 790 + 590 minutes

Elapsed Time t (min)	Drawdown (m)	Elapsed Time t/t' (min)	Residual Drawdown (m)
10	3.38	80	5.60
20	4.20	40.5	4.54
30	4.54	27.33	3.96
40	5.00	20.75	3.57
50	5.27	16.8	3.29
60	5.56	14.17	3.06
70	5.75	12.29	2.88
80	5.92	10.88	2.72
90	6.16	9.78	2.58
100	6.31	8.9	2.46
110	6.45	8.18	2.35
120	6.68	7.58	2.25
150	7.06	6.27	1.99
180	7.37	5.39	1.79
210	7.76	4.76	1.62
240	8.04	4.29	1.48
270	8.28	3.93	1.35
300	8.43	3.63	1.24
330	8.63	3.39	1.13
360	8.75	3.19	1.04
420	8.94	2.88	0.87
480	9.15	2.65	0.74
540	9.34	2.46	0.62
600	9.54	2.34	0.53
660	9.77		
720	9.95		
780	10.11		
790	10.10		



Groundwater
Exploration & Research

AARON DRILLING
Test name: 4160

Test started on: 9/15/00 10:37:48

Data gathered using Linear testing
Time between data points: 10. Minutes.

Channel number [2]
Measurement type: Pressure/Level
Channel name: OnBoard Pressure
Sensor Range: 100 PSI.
Specific gravity: 1
Mode: TOC
User-defined reference: 37 Feet H2O N.P.W.L.
Referenced on: test start
Pressure head at reference: 72.526 Feet H2O
Pump test flow rate 3 igpm

	Date Time	ET (min)	Chan[1] Celsius	Chan[2] Feet H2O
Pump started	9/15/00 10:37	0	9.69	37
	9/15/00 10:47	10	6.17	48.086
	9/15/00 10:57	20	5.59	50.762
	9/15/00 11:07	30	5.49	51.896
	9/15/00 11:17	40	5.43	53.391
	9/15/00 11:27	50	5.38	54.291
	9/15/00 11:37	60	5.36	55.223
	9/15/00 11:47	70	5.35	55.869
	9/15/00 11:57	80	5.34	56.404
	9/15/00 12:07	90	5.33	57.206
	9/15/00 12:17	100	5.34	57.682
	9/15/00 12:27	110	5.33	58.152
	9/15/00 12:37	120	5.32	58.909
	9/15/00 12:47	130	5.32	59.209
	9/15/00 12:57	140	5.32	59.665
	9/15/00 13:07	150	5.32	60.141
	9/15/00 13:17	160	5.31	60.468
	9/15/00 13:27	170	5.31	60.865
	9/15/00 13:37	180	5.32	61.179
	9/15/00 13:47	190	5.32	61.668
	9/15/00 13:57	200	5.32	62.11
	9/15/00 14:07	210	5.32	62.438
	9/15/00 14:17	220	5.32	62.581
	9/15/00 14:27	230	5.32	62.978
	9/15/00 14:37	240	5.32	63.384
	9/15/00 14:47	250	5.32	63.67
	9/15/00 14:57	260	5.31	63.794
	9/15/00 15:07	270	5.31	64.159
	9/15/00 15:17	280	5.31	64.329

9/15/00 15:27	290	5.31	64.472
9/15/00 15:37	300	5.32	64.648 –
9/15/00 15:47	310	5.31	64.897
9/15/00 15:57	320	5.32	65.197
9/15/00 16:07	330	5.32	65.307 –
9/15/00 16:17	340	5.32	65.561
9/15/00 16:27	350	5.31	65.561
9/15/00 16:37	360	5.31	65.704 –
9/15/00 16:47	370	5.31	65.561
9/15/00 16:57	380	5.32	65.861
9/15/00 17:07	390	5.31	65.953
9/15/00 17:17	400	5.32	66.129
9/15/00 17:27	410	5.32	66.207
9/15/00 17:37	420	5.31	66.318 –
9/15/00 17:47	430	5.31	66.539
9/15/00 17:57	440	5.32	66.475
9/15/00 18:07	450	5.32	66.618
9/15/00 18:17	460	5.33	66.756
9/15/00 18:27	470	5.32	67.028
9/15/00 18:37	480	5.32	67.01 –
9/15/00 18:47	490	5.31	67.107
9/15/00 18:57	500	5.31	67.31
9/15/00 19:07	510	5.31	67.374
9/15/00 19:17	520	5.31	67.42
9/15/00 19:27	530	5.32	67.499
9/15/00 19:37	540	5.32	67.623 –
9/15/00 19:47	550	5.32	67.923
9/15/00 19:57	560	5.31	67.942
9/15/00 20:07	570	5.31	68.034
9/15/00 20:17	580	5.32	68.191
9/15/00 20:27	590	5.31	68.255
9/15/00 20:37	600	5.31	68.302 –
9/15/00 20:47	610	5.31	68.588
9/15/00 20:57	620	5.31	68.744
9/15/00 21:07	630	5.31	68.869
9/15/00 21:17	640	5.31	69.044
9/15/00 21:27	650	5.31	69.137
9/15/00 21:37	660	5.31	69.058 –
9/15/00 21:47	670	5.31	69.293
9/15/00 21:57	680	5.31	69.233
9/15/00 22:07	690	5.31	69.533
9/15/00 22:17	700	5.31	69.547
9/15/00 22:27	710	5.32	69.593
9/15/00 22:37	720	5.32	69.644 –
9/15/00 22:47	730	5.31	69.815
9/15/00 22:57	740	5.32	69.879
9/15/00 23:07	750	5.32	69.815
9/15/00 23:17	760	5.31	70.022
9/15/00 23:27	770	5.31	70.036
9/15/00 23:37	780	5.31	70.147 –
9/15/00 23:47	790	5.31	70.115 – 790

Pump stopped	9/15/00 23:57	800	6.47	55.356 – 10
	9/16/00 0:07	810	6.77	51.892 – 20
	9/16/00 0:17	820	6.67	49.982 – 30
	9/16/00 0:27	830	6.56	48.718 – 40
	9/16/00 0:37	840	6.52	47.786 – 50
	9/16/00 0:47	850	6.44	47.048 – 60
	9/16/00 0:57	860	6.38	46.43 – 70
	9/16/00 1:07	870	6.28	45.908 – 80
	9/16/00 1:17	880	6.26	45.465 – 90
	9/16/00 1:27	890	6.19	45.055 – 100
	9/16/00 1:37	900	6.12	44.695 – 110
	9/16/00 1:47	910	6.06	44.377 – 120
	9/16/00 1:57	920	6.04	44.077
	9/16/00 2:07	930	6.01	43.809
	9/16/00 2:17	940	6	43.542 – 150
	9/16/00 2:27	950	5.94	43.32
	9/16/00 2:37	960	5.9	43.099
	9/16/00 2:47	970	5.88	42.877 – 180
	9/16/00 2:57	980	5.86	42.688
	9/16/00 3:07	990	5.82	42.499
	9/16/00 3:17	1000	5.8	42.328 – 210
	9/16/00 3:27	1010	5.78	42.167
	9/16/00 3:37	1020	5.77	42.01
	9/16/00 3:47	1030	5.74	41.853 – 240
	9/16/00 3:57	1040	5.73	41.71
	9/16/00 4:07	1050	5.71	41.567
	9/16/00 4:17	1060	5.7	41.443 – 270
	9/16/00 4:27	1070	5.67	41.3
	9/16/00 4:37	1080	5.65	41.189
	9/16/00 4:47	1090	5.65	41.064 – 300
	9/16/00 4:57	1100	5.63	40.935
	9/16/00 5:07	1110	5.61	40.829
	9/16/00 5:17	1120	5.59	40.718 – 330
	9/16/00 5:27	1130	5.59	40.621
	9/16/00 5:37	1140	5.57	40.511
	9/16/00 5:47	1150	5.57	40.418 – 360
	9/16/00 5:57	1160	5.56	40.322
	9/16/00 6:07	1170	5.56	40.229
	9/16/00 6:17	1180	5.54	40.132
	9/16/00 6:27	1190	5.54	40.04
	9/16/00 6:37	1200	5.52	39.957
	9/16/00 6:47	1210	5.51	39.865 – 420
	9/16/00 6:57	1220	5.5	39.786
	9/16/00 7:07	1230	5.5	39.708
	9/16/00 7:17	1240	5.49	39.643
	9/16/00 7:27	1250	5.48	39.565
	9/16/00 7:37	1260	5.46	39.487
	9/16/00 7:47	1270	5.46	39.422 – 480
	9/16/00 7:57	1280	5.45	39.344
	9/16/00 8:07	1290	5.45	39.279
	9/16/00 8:17	1300	5.43	39.219

9/16/00 8:27	1310	5.43	39.154
9/16/00 8:37	1320	5.42	39.076
9/16/00 8:47	1330	5.42	39.03 — 540
9/16/00 8:57	1340	5.42	38.965
9/16/00 9:07	1350	5.41	38.901
9/16/00 9:17	1360	5.4	38.855
9/16/00 9:27	1370	5.4	38.79
9/16/00 9:37	1380	5.45	38.744 — 590

ALBERTA ENVIRONMENTAL PROTECTION
COMPUTER GENERATED WATER WELL DRILLER'S REPORT FORM

WELL I.D. 497152

THIS DATA MAY NOT BE FULLY CHECKED; THE PROVINCE DISCLAIMS ALL RESPONSIBILITY FOR ITS ACCURACY:

CONTRACTOR:

NAME: AARON/INTERPROVINCIAL WATERWELL DRILLING

ADDRESS: Box 28, Site 9, R.R.1
DeWinton, Alberta T0L-0X0

LICENCE NO.: 0892 JOURNEYMAN NO.: VA4996

WELL OWNER:

NAME: BAYLEY VIC #4160

ADDRESS: SSSITE 14 R R 8 CALGARY ALTA
P.O. Box 23

POSTAL CODE: T2J 2T9

WELL LOCATION: IC#:

¼ OR LSD	SEC	TWP	RGE	W. MER
NE	30	022	02	W5

LOCATION VERIFICATION METHOD: FIELD
LOCATION IN QUARTER:

LOT: 1 BLOCK: PLAN:
WELL ELEV: Feet How obtain: SURVEY-AIR

FORMATION LOG DESCRIPTION:

Depth (Feet)	Lithology:
Ground to:	
1	Topsoil
25	Till
57	Brown Sandstone
63	Gray Shale
72	Sandstone
82	Green Shale
91	Sandstone
95	Gray Shale
108	Water Bearing Sandstone
115	Gray Shale

DRILLING METHOD: ROTARY

TYPE OF WORK: NEW WELL

FLOWING WELL: **RATE:**
GAS PRESENT: No **OIL PRESENT:** No
DATE OF ABANDONMENT:
MATERIAL USED:
PROPOSED USE: DOMESTIC

WELL COMPLETION DATA:

WELL FINISH: CASING/PERFORATED LINER
TOTAL HOLE DEPTH: 115 Feet

CASING TYPE: STEEL
SIZE OD: 6.62 Inch WALL THICKNESS: 0.188 Inch
BOTTOM AT: 38 Feet
PERFORATED CASING/LINER:
TYPE: PLASTIC
SIZE OD: 5.00 Inch ID: Inch
WALL THICKNESS: 0.219 Inch
TOP AT: 35 Feet BOTTOM AT: 115 Feet
PERFORATED FROM: 95 Feet TO: 115 Feet
Feet TO: Feet
Feet TO: Feet
SIZE OF PERFORATIONS: 0.188 Inch X 6.000 Inch
HOW PERFORATED: SAW
SEAL TYPE: DRIVEN
INTERVAL TOP: 36 Feet TO: 38 Feet
GEOPHYSICAL LOG TAKEN:
RETAINED ON FILE:
SCREEN:
MATERIAL:
SIZE ID (CLEAR): Inch SLOT SIZE: Inch
INTERVAL TOP: Feet TO: Feet
Feet TO: Feet
INSTALLATION METHOD:
TOP FITTINGS:
BOTTOM FITTINGS:
PACK TYPE:
GRAIN SIZE: AMOUNT:

PITLESS ADAPTER TYPE:
DROP PIPE TYPE: LENGTH: Feet
DIAMETER: Inch
ADDITIONAL PUMP INFORMATION:

PRODUCTION TEST:
TEST DATE: September 15, 1900 **START TIME:** 3:00

Elapsed Time in Min:Sec	Depth to Water Level During Pumping (Feet)	Depth to Water Level During Recovery (Feet)
10:00	48.	55.
100:00	57.6	45.
300:00	64.6	41.
590:00	68.2	38.7
790:00	70.1	

WATER REMOVAL RATE DURING TEST: 3 Gal/Min
TEST DURATION: 13 Hours 10 Minutes
TESTING METHOD: PUMP
DEPTH OF PUMP/DRILL STEM: 100 Feet
WATER LEVEL AT END OF TEST: 70 Feet
NON-PUMPING(STATIC) WATER LEVEL: 37.0 FEET
TOTAL DRAWDOWN: 43 Feet

RECOMMENDED PUMPING RATE: 3 Gal/Min
RECOMMENDED PUMP INTAKE AT: 105 Feet
TYPE OF PUMP INSTALLED:
MODEL: H.P.:

DATE WORK STARTED: September 16, 1900

DATE WORK COMPLETED: September 16, 1900

COMMENTS: TDS 550 IRON <0.5 HARD 5 PUMP TEST MONITORED BY DATA LOGGER Q20 BY GROUNDWATER EX
(Maximum of 8 lines printed)

ADDITIONAL TEST AND/OR PUMP DATA:

CHEMISTRIES HELD: DOCUMENTS HELD: 1

WELL OWNER'S ANTICIPATED WATER REQUIREMENTS PER DAY: 500 Gallons

DATE FORM PRINTED: September 20, 200012:02:27 DATE DATA KEYED: September 20, 2000 GIC5 BM

Appendix B

Well #4163

Groundwater

Exploration & Research

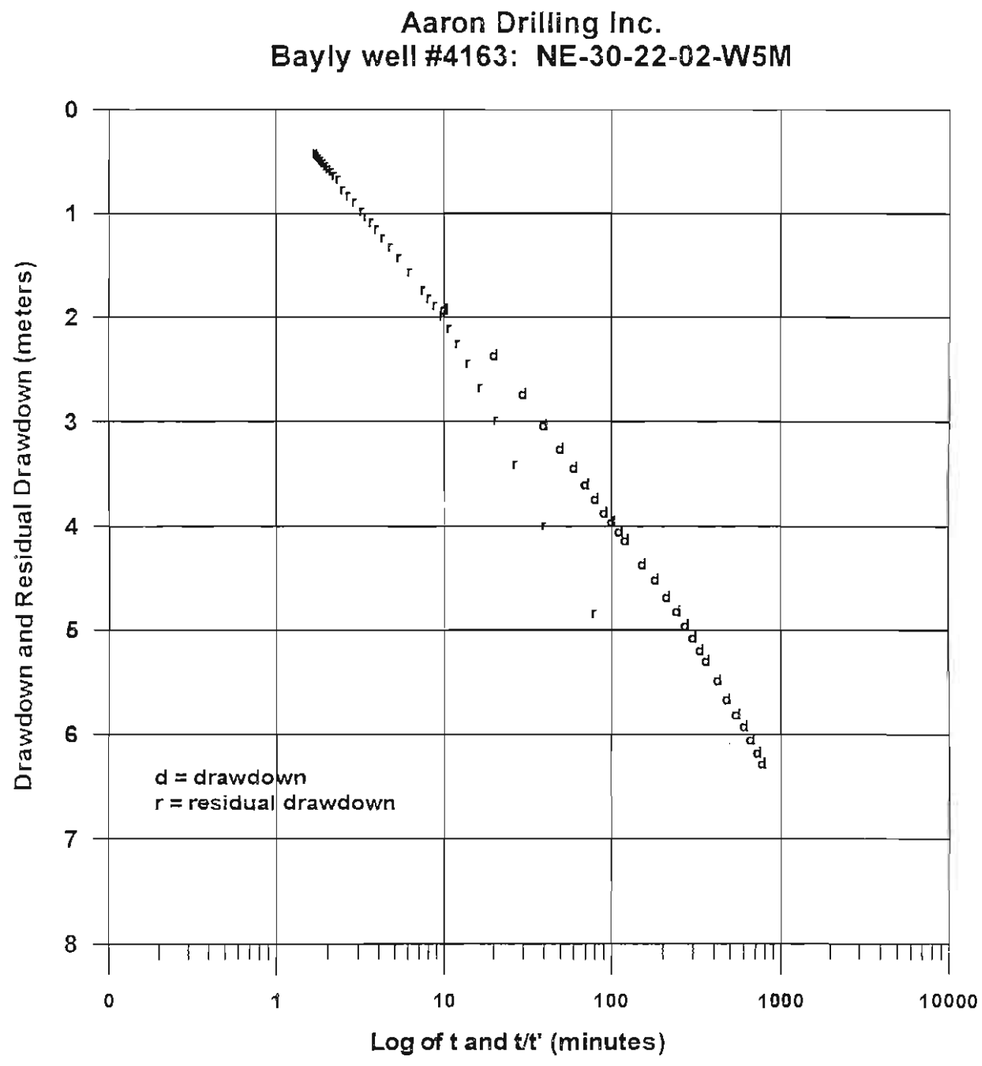
Pump Test Data
NE-30-22-02-W5M

Project: Bayly Well #4163
Date: September 16 - 17, 2000
Non-Pumping Water Level: 10.27 meters, below top of casing
Pump Test Rate: 19.64 m^3/day (3.0 Cgpm)
Test Duration: 770 + 1150 minutes

Elapsed Time t (min)	Drawdown (m)	Elapsed Time t/t' (min)	Residual Drawdown (m)
10	1.90	78	4.80
20	2.34	39.5	3.96
30	2.71	26.67	3.38
40	3.01	20.25	2.96
50	3.23	16.4	2.64
60	3.42	13.83	2.41
70	3.57	12	2.22
80	3.71	10.63	2.08
90	3.84	9.56	1.96
100	3.93	8.7	1.86
110	4.02	8	1.78
120	4.10	7.42	1.70
150	4.33	6.13	1.53
180	4.48	5.28	1.39
210	4.66	4.67	1.29
240	4.79	4.21	1.20
270	4.93	3.85	1.12
300	5.04	3.57	1.05
330	5.16	3.33	0.99
360	5.26	3.14	0.95
420	5.45	2.83	0.86
480	5.63	2.60	0.79
540	5.78	2.43	0.74
600	5.89	2.28	0.64
660	6.02	2.17	0.60
720	6.14	2.07	0.56
770	6.24	1.99	0.53

Pump Test Data (continued)
NE-30-22-02-W5M (Well #4163)

Elapsed Time t (min)	Drawdown (m)	Elapsed Time t/t' (min)	Residual Drawdown (m)
		1.92	0.50
		1.86	0.48
		1.80	0.45
		1.75	0.43
		1.71	0.41
		1.68	0.39
		1.67	0.38


Aaron Drilling Inc.
Bayly well #4163: NE-30-22-02-W5M
Drawdown and Residual Drawdown (meters)
0
1
2
3
4
5
6
7
8
d = drawdown
r = residual drawdown
0
1
10
100
1000
10000
Log of t and t/t' (minutes)

AARON DRILLING
Test name: 4163

Test started on: 9/16/00 12:00:00

Data gathered using Linear testing
Time between data points: 10. Minutes.

Channel number [2]
Measurement type: Pressure/Level
Channel name: OnBoard Pressure
Sensor Range: 100 PSI.
Specific gravity: 1
Mode: TOC
User-defined reference: 33.7 Feet H2O N.P.W.L.
Referenced on: test start
Pressure head at reference: 41.903 Feet H2O
Pump test flow rate 3 igpm

	Date Time	ET (min)	Chan[1] Celsius	Chan[2] Feet H2O
Pump started	9/16/00 12:00	0	6.66	33.7
	9/16/00 12:10	10	5.54	39.928
	9/16/00 12:20	20	5.46	41.363
	9/16/00 12:30	30	5.45	42.59
	9/16/00 12:40	40	5.42	43.568
	9/16/00 12:50	50	5.43	44.292
	9/16/00 13:00	60	5.43	44.906
	9/16/00 13:10	70	5.44	45.409
	9/16/00 13:20	80	5.44	45.865
	9/16/00 13:30	90	5.43	46.294
	9/16/00 13:40	100	5.43	46.59
	9/16/00 13:50	110	5.43	46.89
	9/16/00 14:00	120	5.42	47.157
	9/16/00 14:10	130	5.42	47.489
	9/16/00 14:20	140	5.4	47.66
	9/16/00 14:30	150	5.4	47.914
	9/16/00 14:40	160	5.39	48.071
	9/16/00 14:50	170	5.38	48.292
	9/16/00 15:00	180	5.38	48.403
	9/16/00 15:10	190	5.39	48.624
	9/16/00 15:20	200	5.38	48.781
	9/16/00 15:30	210	5.38	48.97
	9/16/00 15:40	220	5.38	49.113
	9/16/00 15:50	230	5.37	49.302
	9/16/00 16:00	240	5.37	49.408
	9/16/00 16:10	250	5.36	49.551
	9/16/00 16:20	260	5.36	49.694
	9/16/00 16:30	270	5.36	49.865
	9/16/00 16:40	280	5.35	50.008

	9/16/00 16:50	290	5.35	50.119
	9/16/00 17:00	300	5.34	50.243
	9/16/00 17:10	310	5.34	50.386
	9/16/00 17:20	320	5.34	50.497
	9/16/00 17:30	330	5.34	50.622
	9/16/00 17:40	340	5.34	50.7
	9/16/00 17:50	350	5.34	50.811
	9/16/00 18:00	360	5.34	50.968
	9/16/00 18:10	370	5.34	51.065
	9/16/00 18:20	380	5.33	51.143
	9/16/00 18:30	390	5.32	51.203
	9/16/00 18:40	400	5.32	51.332
	9/16/00 18:50	410	5.32	51.475
	9/16/00 19:00	420	5.32	51.581
	9/16/00 19:10	430	5.32	51.646
	9/16/00 19:20	440	5.32	51.724
	9/16/00 19:30	450	5.32	51.867
	9/16/00 19:40	460	5.32	51.978
	9/16/00 19:50	470	5.32	52.056
	9/16/00 20:00	480	5.32	52.167
	9/16/00 20:10	490	5.32	52.213
	9/16/00 20:20	500	5.32	52.306
	9/16/00 20:30	510	5.31	52.338
	9/16/00 20:40	520	5.31	52.467
	9/16/00 20:50	530	5.31	52.592
	9/16/00 21:00	540	5.31	52.656
	9/16/00 21:10	550	5.31	52.716
	9/16/00 21:20	560	5.31	52.781
	9/16/00 21:30	570	5.31	52.859
	9/16/00 21:40	580	5.3	52.97
	9/16/00 21:50	590	5.3	53.016
	9/16/00 22:00	600	5.31	53.03
	9/16/00 22:10	610	5.31	53.094
	9/16/00 22:20	620	5.31	53.173
	9/16/00 22:30	630	5.3	53.251
	9/16/00 22:40	640	5.31	53.348
	9/16/00 22:50	650	5.31	53.362
	9/16/00 23:00	660	5.31	53.44
	9/16/00 23:10	670	5.31	53.505
	9/16/00 23:20	680	5.3	53.616
	9/16/00 23:30	690	5.3	53.676
	9/16/00 23:40	700	5.29	53.708
	9/16/00 23:50	710	5.3	53.805
	9/17/00 0:00	720	5.3	53.851
	9/17/00 0:10	730	5.29	53.962
	9/17/00 0:20	740	5.31	54.04
	9/17/00 0:30	750	5.29	54.054
	9/17/00 0:40	760	5.29	54.132
	9/17/00 0:50	770	5.29	54.183
Pump stopped	9/17/00 1:00	780	5.28	49.455
	9/17/00 1:10	790	5.28	46.7

9/17/00 1:20	800	5.31	44.777
9/17/00 1:30	810	5.31	43.393
9/17/00 1:40	820	5.32	42.368
9/17/00 1:50	830	5.31	41.593
9/17/00 2:00	840	5.31	40.98
9/17/00 2:10	850	5.3	40.509
9/17/00 2:20	860	5.29	40.113
9/17/00 2:30	870	5.29	39.799
9/17/00 2:40	880	5.29	39.531
9/17/00 2:50	890	5.29	39.278
9/17/00 3:00	900	5.29	39.075
9/17/00 3:10	910	5.28	38.885
9/17/00 3:20	920	5.28	38.71
9/17/00 3:30	930	5.27	38.553
9/17/00 3:40	940	5.26	38.41
9/17/00 3:50	950	5.27	38.272
9/17/00 4:00	960	5.26	38.161
9/17/00 4:10	970	5.26	38.05
9/17/00 4:20	980	5.26	37.94
9/17/00 4:30	990	5.26	37.829
9/17/00 4:40	1000	5.25	37.718
9/17/00 4:50	1010	5.24	37.64
9/17/00 5:00	1020	5.24	37.561
9/17/00 5:10	1030	5.24	37.469
9/17/00 5:20	1040	5.24	37.372
9/17/00 5:30	1050	5.24	37.308
9/17/00 5:40	1060	5.24	37.229
9/17/00 5:50	1070	5.23	37.151
9/17/00 6:00	1080	5.23	37.086
9/17/00 6:10	1090	5.23	37.04
9/17/00 6:20	1100	5.23	36.962
9/17/00 6:30	1110	5.23	36.915
9/17/00 6:40	1120	5.23	36.851
9/17/00 6:50	1130	5.22	36.805
9/17/00 7:00	1140	5.22	36.759
9/17/00 7:10	1150	5.22	36.708
9/17/00 7:20	1160	5.22	36.662
9/17/00 7:30	1170	5.22	36.602
9/17/00 7:40	1180	5.21	36.551
9/17/00 7:50	1190	5.21	36.519
9/17/00 8:00	1200	5.21	36.491
9/17/00 8:10	1210	5.21	36.44
9/17/00 8:20	1220	5.21	36.413
9/17/00 8:30	1230	5.21	36.362
9/17/00 8:40	1240	5.21	36.33
9/17/00 8:50	1250	5.21	36.302
9/17/00 9:00	1260	5.21	36.27
9/17/00 9:10	1270	5.21	36.223
9/17/00 9:20	1280	5.21	36.191
9/17/00 9:30	1290	5.2	36.173
9/17/00 9:40	1300	5.2	36.14

9/17/00 9:50	1310	5.2	36.113
9/17/00 10:00	1320	5.2	36.08
9/17/00 10:10	1330	5.2	36.048
9/17/00 10:20	1340	5.2	36.016
9/17/00 10:30	1350	5.2	35.984
9/17/00 10:40	1360	5.2	35.97
9/17/00 10:50	1370	5.2	35.937
9/17/00 11:00	1380	5.2	35.905
9/17/00 11:10	1390	5.2	35.891
9/17/00 11:20	1400	5.2	35.873
9/17/00 11:30	1410	5.2	35.845
9/17/00 11:40	1420	5.2	35.813
9/17/00 11:50	1430	5.2	35.794
9/17/00 12:00	1440	5.19	35.781
9/17/00 12:10	1450	5.19	35.748
9/17/00 12:20	1460	5.19	35.716
9/17/00 12:30	1470	5.19	35.702
9/17/00 12:40	1480	5.18	35.684
9/17/00 12:50	1490	5.18	35.67
9/17/00 13:00	1500	5.18	35.656
9/17/00 13:10	1510	5.18	35.624
9/17/00 13:20	1520	5.18	35.605
9/17/00 13:30	1530	5.18	35.573
9/17/00 13:40	1540	5.18	35.559
9/17/00 13:50	1550	5.19	35.545
9/17/00 14:00	1560	5.18	35.527
9/17/00 14:10	1570	5.18	35.513
9/17/00 14:20	1580	5.18	35.495
9/17/00 14:30	1590	5.18	35.481
9/17/00 14:40	1600	5.18	35.448
9/17/00 14:50	1610	5.18	35.448
9/17/00 15:00	1620	5.18	35.435
9/17/00 15:10	1630	5.18	35.402
9/17/00 15:20	1640	5.18	35.402
9/17/00 15:30	1650	5.18	35.384
9/17/00 15:40	1660	5.18	35.356
9/17/00 15:50	1670	5.18	35.356
9/17/00 16:00	1680	5.19	35.338
9/17/00 16:10	1690	5.19	35.324
9/17/00 16:20	1700	5.18	35.305
9/17/00 16:30	1710	5.19	35.292
9/17/00 16:40	1720	5.18	35.278
9/17/00 16:50	1730	5.18	35.259
9/17/00 17:00	1740	5.19	35.245
9/17/00 17:10	1750	5.18	35.227
9/17/00 17:20	1760	5.18	35.227
9/17/00 17:30	1770	5.18	35.213
9/17/00 17:40	1780	5.18	35.199
9/17/00 17:50	1790	5.18	35.181
9/17/00 18:00	1800	5.18	35.167
9/17/00 18:10	1810	5.18	35.167

9/17/00 18:20	1820	5.18	35.149
9/17/00 18:30	1830	5.18	35.135
9/17/00 18:40	1840	5.18	35.116
9/17/00 18:50	1850	5.18	35.102
9/17/00 19:00	1860	5.18	35.102
9/17/00 19:10	1870	5.18	35.089
9/17/00 19:20	1880	5.18	35.07
9/17/00 19:30	1890	5.18	35.056
9/17/00 19:40	1900	5.18	35.056
9/17/00 19:50	1910	5.18	35.038
9/17/00 20:00	1920	5.18	35.024
9/17/00 20:10	1930	5.18	35.024
9/17/00 20:20	1940	5.18	35.01
9/17/00 20:30	1950	5.18	34.992
9/17/00 20:40	1960	5.18	34.992
9/17/00 20:50	1970	5.18	34.978
9/17/00 21:00	1980	5.18	34.959

ALBERTA ENVIRONMENTAL PROTECTION

COMPUTER GENERATED WATER WELL DRILLER'S REPORT FORM

WELL I.D. 497153

THIS DATA MAY NOT BE FULLY CHECKED; THE PROVINCE DISCLAIMS ALL RESPONSIBILITY FOR ITS ACCURACY:

CONTRACTOR:

NAME: AARON/INTERPROVINCIAL WATERWELL DRILLING

ADDRESS: Box 28, Site 9, R.R.1 DeWinton, Alberta T0L-0X0

LICENCE NO.: 0892 JOURNEYMAN NO.: VA4996

WELL OWNER:

NAME: BAYLEY VIC #4163

ADDRESS: SITE 14 R R 8 CALGARY ALTA P.O. Box 23

POSTAL CODE: T2J 2T9

WELL LOCATION: IC#:

¼ OR LSD	SEC	TWP	RGE	W. MER
NE	30	022	02	W5

LOCATION VERIFICATION METHOD: FIELD
LOCATION IN QUARTER:

LOT: 2 BLOCK: PLAN:
WELL ELEV: Feet How obtain: SURVEY-AIR

FORMATION LOG DESCRIPTION:

Depth (Feet)	Lithology:
Ground to:	
1	Topsoil
10	Till
68	Brown Sandstone
73	Gray Shale
83	Wet Sandstone
97	Green Shale
110	Water Bearing Sandstone
115	Gray Shale

DRILLING METHOD: ROTARY

TYPE OF WORK: NEW WELL

FLOWING WELL: **RATE:**
GAS PRESENT: No **OIL PRESENT:** No
DATE OF ABANDONMENT:
MATERIAL USED:
PROPOSED USE: DOMESTIC

WELL COMPLETION DATA:

WELL FINISH: CASING/PERFORATED LINER
TOTAL HOLE DEPTH: 115 Feet

CASING TYPE: STEEL
SIZE OD: 6.62 Inch WALL THICKNESS: 0.188 Inch
BOTTOM AT: 38 Feet

PERFORATED CASING/LINER:
TYPE: PLASTIC
SIZE OD: 5.00 Inch ID: Inch
WALL THICKNESS: 0.219 Inch
TOP AT: 35 Feet BOTTOM AT: 115 Feet
PERFORATED FROM: 95 Feet TO: 115 Feet
Feet TO: Feet
Feet TO: Feet

SIZE OF PERFORATIONS: 0.188 Inch X 6.000 Inch
HOW PERFORATED: SAW

SEAL TYPE: DRIVEN
INTERVAL TOP: 36 Feet TO: 38 Feet

GEOPHYSIGAL LOG TAKEN:
RETAINED ON FILE:

SCREEN:
MATERIAL:
SIZE ID (CLEAR): Inch SLOT SIZE: Inch
INTERVAL TOP: Feet TO: Feet
Feet TO: Feet

INSTALLATION METHOD:
TOP FITTINGS:
BOTTOM FITTINGS:

PACK TYPE:
GRAIN SIZE: AMOUNT:

PITLESS ADAPTER TYPE:
DROP PIPE TYPE: LENGTH: Feet
DIAMETER: Inch
ADDITIONAL PUMP INFORMATION:

PRODUCTION TEST:

TEST DATE: September 18, 1900 START TIME: 3:00

Elapsed Time in Min:Sec	Depth to Water Level During Pumping (Feet)	Depth to Water Level During Recovery (Feet)
10:00	39.9	48.4
100:00	46.6	39.7
300:00	50.2	37.1
770:00	54.2	35.6
1210:00		34.9

WATER REMOVAL RATE DURING TEST: 3 Gal/Min
TEST DURATION: 12 Hours 50 Minutes
TESTING METHOD: PUMP
DEPTH OF PUMP/DRILL STEM: 100 Feet
WATER LEVEL AT END OF TEST: 54 Feet
~~NON-PUMPING(STATIC)~~ WATER LEVEL: 33.7 ~~FEET~~
TOTAL DRAWDOWN: 20 Feet

RECOMMENDED PUMPING RATE: 3 Gal/Min
RECOMMENDED PUMP INTAKE AT: 105 Feet
TYPE OF PUMP INSTALLED:
MODEL: H.P.:

DATE WORK STARTED: September 7, 1900

DATE WORK COMPLETED: September 7, 1900

ADDITIONAL TEST AND/OR PUMP DATA:

CHEMISTRIES HELD: DOCUMENTS HELD: 1

WELL OWNER'S ANTICIPATED WATER REQUIREMENTS PER DAY: 500 Gallons

COMMENTS: WATER ANALYSIS TDS 650 IRON <0.5 HARD 5 PUMP TST MONITORED BY DATA LOGGER Q20 INTERP BY GROUNDWATER EX.
(Maximum of 9 lines printed)

DATE FORM PRINTED: September 20, 200012:02:28 DATE DATA KEYED: September 20, 2000 GIC5 BM

Attachment 6

Alberta Environment

You have selected more than one water wells.
Please click the water well ID to generate Water Well Drilling Report.

WellID	M	TWP	RGE	SEC	LSD	DRILLER COMPANY	DATE COMPLETED	DEPTH	USE	CHM	LT	PT	WELL OWNER	STATIC LEVEL	TEST RATE	CASING FROM	PERFS TO	SCREEN P FROM
	5	022	02	30	NE	AARON DRILLING INC.	9/16/2000	115	Domestic	0	10	5	BAYLEY, VIC #4160	37	3	95	115	0
	5	022	02	30	NE	AARON DRILLING INC.	9/7/2000	115	Domestic	0	8	5	BAYLEY, VIC #4163	33.7	3	95	115	0
	5	022	02	30	NE	AARON DRILLING INC.	2/5/1991	180	Domestic	0	8	1	PARKSIDE MGMT #1532	67	5	140	180	0
	5	022	02	30	NE	AARON DRILLING INC.	11/15/1990	160	Domestic	0	4	0	TRABER, DALE #1504	45	5	120	160	0
	5	022	02	30	NE	AARON DRILLING INC.	3/22/1991	250	Domestic	0	9	0	BAYLY, VIC	125	0	0	0	0
	5	022	02	30	NE	AARON DRILLING INC.	4/12/1991	180	Domestic	0	6	0	BAYLY, VIC #1590	50	2	140	180	0
	5	022	02	30	10	AARON DRILLING INC.	7/4/1991	80	Domestic	0	5	0	PARKSIDE MGMT #1634	34	3	40	80	0
	5	022	02	30	10	AARON DRILLING INC.	7/3/1991	105	Domestic	0	10	0	PARKSIDE MGMT #1633	48	15	65	105	0
	5	022	02	30	10	AARON DRILLING INC.	7/17/1991	80	Domestic	0	9	0	PARKSIDE MGMT #1642	28	7	45	80	0
	5	022	02	30	NE	KRIEGER DRILLING LTD.	7/1/1993	200	Domestic		13	0	BAILEY, VIC			0	0	0
	5	022	02	30	NE	KRIEGER DRILLING LTD.	7/4/1993	30	Domestic	1	4	0	BAILEY, VIC	5.8	5	0	0	25
	5	022	02	30	10	AARON DRILLING INC.	6/28/1991	240	Domestic	0	10	0	PARKSIDE MGMT #1630	48 48	1.5 4	180	240	0
	5	022	02	30	NE	WATKINS DRILLING	6/4/1969	115	Domestic	0	4	0	CAMERON, WM	40		0	0	0

Environment

Location: > > >
> Groundwater Information System - Reconnaissance Explanation

Last Review/Updated: June 27, 2002

This sheet is to accompany the Reconnaissance or Summary Sheet.

The attached list is a summary of groundwater related data which has been entered into a database for the area requested. The list is not intended to be a true reflection of the exact number and location of the water wells for the area. The report may also appear as if certain records are duplicated. The same record will appear multiple times on the summary sheet each time a different well test is conducted.

- All measurements are in imperial units
- DEPTH is reported in feet from the surface
- CHM = number of chemical analyses held on file
- LT = number of lines of lithology
- PT = number of lines of pump test data (drawdown and/or recovery)
- STATIC LEVEL is reported in feet from the surface unless otherwise reported in COMMENTS on the original database
- TEST YIELD is reported in gallons per minute
- TEST DURN (test duration) is reported in hours. If it is shown as a decimal i.e. 0.3 this indicates 30 minutes, NOT 0.3 of an hour
- Only the first set of perforations in the casing, liner or screen are shown and are reported in feet from the surface unless otherwise reported in COMMENTS on the original database

Proposed Use (USE) Column Explanation	
Code Number	**Description**
01	Domestic
02	Industrial
03	Irrigation
04	Municipal
05	Observation
06	Stock
07	Domestic & Stock
08	Industrial & Stock
09	Unknown

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0341357
Map Verified:	Field
Date Report Received:	2000/09/27
Measurements:	

1. Contractor & Well Owner Information

Company Name: AARON DRILLING INC.		Drilling Company Approval No.: 11590
Mailing Address: BOX 28, SITE 9, RR1	City or Town: DE WINTON ALBERTA CANADA	Postal Code: T0L 0X0
WellOwner's Name: BAYLEY, VIC #4160	Well Location Identifier:	
P.O. Box Number: 23	Mailing Address: SITE 14 RR8, CALGARY	Postal Code: T2J 2T9
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	Westof M
NE	30	022	02	5

Location in Quarter
0 FT from Boundary
0 FT from Boundary

Lot 1 | Block | Plan

Well Elev: FT | How Obtain: Survey-Air

3. Drilling Information

Type of Work: New Well
Reclaimed Well
Date Reclaimed: | 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 500 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): 2000/09/15 | Start Time: 3:00 PM
Test Method: Pump
Non pumping static level: 37 FT
Rate of water removal: 3 Gallons/Min
Depth of pump intake: 100 FT
Water level at end of pumping: 70 FT
Distance from top of casing to ground level: Inches

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

Drawdown	Minutes:Sec	Recovery
48	10:00	55
57.6	100:00	45
64.6	300:00	41
68.2	590:00	38.7
70.1	790:00	

Total Drawdown: 43 FT
If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 3 Gallons/Min
Recommended pump intake: 105 FT
Type Pump Installed
Pump Type:
Pump Model:
H.P.:
Any further pumptest information?

4. Formation Log

Depth from ground level (feet)	Lithology Description
1	Topsoil
25	Till
57	Brown Sandstone
63	Gray Shale
72	Sandstone
82	Green Shale
91	Sandstone
95	Gray Shale
108	Water Bearing Sandstone
115	Gray Shale

5. Well Completion

Date Started(yyyy/mm/dd): 2000/09/16 | Date Completed (yyyy/mm/dd): 2000/09/16
Well Depth: 115 FT | Borehole Diameter: 0 Inches
Casing Type: Steel | Liner Type: Plastic
Size OD: 6.62 Inches | Size OD: 5 Inches
Wall Thickness: 0.188 Inches | Wall Thickness: 0.219 Inches
Bottom at: 38 FT | Top: 35 FT Bottom: 115 FT
Perforations from: 95 FT to: 115 FT
from: 0 FT to: 0 FT
from: 0 FT to: 0 FT
Perforations Size: 0.188 Inches x 6 Inches
0 Inches x 0 Inches
0 Inches x 0 Inches
Perforated by: Saw
Seal: Driven from: 36 FT to: 38 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:

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0341358
Map Verified:	Field
Date Report Received:	2000/09/27
Measurements:	

1. Contractor & Well Owner Information

Company Name: AARON DRILLING INC.		Drilling Company Approval No.: 11590
Mailing Address: BOX 28, SITE 9, RR1	City or Town: DE WINTON ALBERTA CANADA	Postal Code: T0L 0X0
WellOwner's Name: BAYLEY, VIC #4163	Well Location Identifier:	
P.O. Box Number: 23	Mailing Address: SITE 14 RR8, CALGARY	Postal Code: T2J 2T9
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	Westof M
NE	30	022	02	5

Location in Quarter
0 FT from Boundary
0 FT from Boundary

Lot 2 | Block | Plan

Well Elev: FT | How Obtain: Survey-Air

3. Drilling Information

Type of Work: New Well
Reclaimed Well
Date Reclaimed:
Materials Used:
Proposed well use: Domestic
Anticipated Water Requirements/day 500 Gallons
Method of Drilling: Rotary
Flowing Well: No
Gas Present: No
Rate: Gallons
Oil Present: No

4. Formation Log

Depth from ground level (feet)	Lithology Description
1	Topsoil
19	Till
68	Brown Sandstone
73	Gray Shale
83	Wet Sandstone
97	Green Shale
110	Water Bearing Sandstone
115	Gray Shale

5. Well Completion

Date Started(yyyy/mm/dd): 2000/09/07	Date Completed (yyyy/mm/dd): 2000/09/07
Well Depth: 115 FT	Borehole Diameter: 0 Inches
Casing Type: Steel	Liner Type: Plastic
Size OD: 6.62 Inches	Size OD: 5 Inches
Wall Thickness: 0.188 Inches	Wall Thickness: 0.219 Inches
Bottom at: 38 FT	Top: 35 FT Bottom: 115 FT
Perforations from: 95 FT to: 115 FT from: 0 FT to: 0 FT from: 0 FT to: 0 FT	Perforations Size: 0.188 Inches x 6 Inches 0 Inches x 0 Inches 0 Inches x 0 Inches
Perforated by: Saw	
Seal: Driven from: 36 FT Seal: from: 0 FT Seal: from: 0 FT	to: 38 FT to: 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:	

6. Well Yield

Test Date (yyyy/mm/dd): 2000/09/18 | Start Time: 3:00 PM
Test Method: Pump
Non pumping static level: 33.7 FT
Rate of water removal: 3 Gallons/Min
Depth of pump intake: 100 FT
Water level at end of pumping: 54 FT
Distance from top of casing to ground level: Inches

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

39.9	10:00	49.4
46.6	100:00	39.7
50.2	300:00	37.1
54.2	770:00	35.6
	1,210:00	34.9

Total Drawdown: 20 FT
If water removal was less than 2 hr duration, reason why:
Recommended pumping rate: 3 Gallons/Min
Recommended pump intake: 105 FT
Type Pump Installed
Pump Type:
Pump Model:
H.P.:
Any further pumptest information?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0349985
Map Verified:	Field
Date Report Received:	
Measurements:	

1. Contractor & Well Owner Information

Company Name: AARON DRILLING INC.		Drilling Company Approval No.: 11590
Mailing Address: BOX 28, SITE 9, RR1	City or Town: DE WINTON ALBERTA CANADA	Postal Code: T0L 0X0
WellOwner's Name: PARKSIDE MGMT #1532	Well Location Identifier:	
P.O. Box Number: 21	Mailing Address: SITE 14 RR8, CALGARY	Postal Code:
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	Westof M
NE	30	022	02	5

Location in Quarter
0 FT from Boundary
0 FT from Boundary

Lot Block Plan

Well Elev: FT
How Obtain: Survey-Air

3. Drilling Information

Type of Work: New Well
Reclaimed Well
Date Reclaimed: Materials Used:

Method of Drilling: Rotary

Flowing Well: Rate: Gallons
Gas Present: No Oil Present: No

Proposed well use: Domestic
Anticipated Water Requirements/day 500 Gallons

6. Well Yield

Test Date (yyyy/mm/dd): 1991/02/05
Start Time: 3:00 AM
Test Method: Bailer

Non pumping static level: 67 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
20:00 100

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
1	Topsoil
50	Clay & Rocks
58	Gray Shale
75	Blue Sandy Shale
135	Blue Gray Hard Shale & Siltstone
157	Gray Sandstone
161	Brown Fractured Sandstone
180	Blue Gray Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1991/02/05
Date Completed (yyyy/mm/dd): 1991/02/05

Well Depth: 180 FT
Borehole Diameter: 0 Inches

Casing Type: Steel
Liner Type: Plastic

Size OD: 6.6 Inches
Size OD: 5 Inches

Wall Thickness: 0.188 Inches
Wall Thickness: 0.209 Inches

Bottom at: 50 FT
Top: 60 FT Bottom: 180 FT

Perforations
from: 140 FT to: 180 FT
from: 0 FT to: 0 FT
from: 0 FT to: 0 FT

Perforations Size:
0.188 Inches x 6 Inches
0 Inches x 0 Inches
0 Inches x 0 Inches

Perforated by: Machine

Seal: Driven
from: 0 FT to: 64 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:
WATER ANALYSIS TDS 400 IRON 2.0 HARD 5 H2S TRACE

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0352992
Map Verified:	Not Verified
Date Report Received:	1990/11/23
Measurements:	

1. Contractor & Well Owner Information

Company Name: AARON DRILLING INC.		Drilling Company Approval No.: 11590
Mailing Address: BOX 28, SITE 9, RR1	City or Town: DE WINTON ALBERTA CANADA	Postal Code: T0L 0X0
WellOwner's Name: TRABER, DALE #1504	Well Location Identifier:	
P.O. Box Number: 21	Mailing Address: SITE 14 RR8, CALGARY	Postal Code:
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	Westof M
NE	30	022	02	5

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: Materials Used:

Method of Drilling: Cable Tool

Flowing Well: No
Gas Present: Rate: Gallons
Oil Present:

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

4. Formation Log

Depth from ground level (feet)	Lithology Description
32	Brown Sandy Clay
43	Gray Shale
147	Gray See Comments Sandstone
160	Gray Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1990/11/14	Date Completed (yyyy/mm/dd): 1990/11/15
Well Depth: 160 FT	Borehole Diameter: 0 inches
Casing Type: Steel	Liner Type: Steel
Size OD: 6.62 Inches	Size OD: 5.56 Inches
Wall Thickness: 0.188 Inches	Wall Thickness: 0.156 Inches
Bottom at: 38 FT	Top: 35 FT Bottom: 160 FT
Perforations from: 120 FT to: 160 FT from: 0 FT to: 0 FT from: 0 FT to: 0 FT	Perforations Size: 0.25 Inches x 12 Inches 0 Inches x 0 Inches 0 Inches x 0 Inches
Perforated by: Torch	
Seal: Driven from: 0 FT Seal: from: 0 FT Seal: from: 0 FT	to: 38 FT to: 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:
WATER @ 118-145. Tds 475 ppm, IRON .5 PPM, HARDNESS 10 Grains.

6. Well Yield

Test Date (yyyy/mm/dd): 1990/11/15
Start Time: 11:00 AM
Test Method: Bailer

Non pumping static level: 45 FT

Rate of water removal: 5 Gallons/Min

Depth of pump intake: 0 FT

Water level at end of pumping: 0 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: 4 Gallons/Min

Recommended pump intake: 0 FT

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

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0356160
Map Verified:	Not Verified
Date Report Received:	1991/04/16
Measurements:	

1. Contractor & Well Owner Information

Company Name: AARON DRILLING INC.		Drilling Company Approval No.: 11590
Mailing Address: BOX 28, SITE 9, RR1	City or Town: DE WINTON ALBERTA CANADA	Postal Code: T0L 0X0
WellOwner's Name: BAYLY, VIC	Well Location Identifier:	
P.O. Box Number:	Mailing Address: 1475 550 6 AVE SW, CALGARY	Postal Code:
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	Westof M
NE	30	022	02	5

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: Test Hole-Abandoned
Reclaimed Well
Date Reclaimed: Materials Used: Unknown
Method of Drilling: Cable Tool
Flowing Well: No Rate: Gallons
Gas Present: Oil Present:

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

4. Formation Log

Depth from ground level (feet)	Lithology Description
1	Topsoil
55	Clay & Rocks
65	Gray Shale
81	Gray Siltstone
163	Gray Sandstone
169	Gray Shale
195	Gray Sandstone
209	Gray Shale
250	Gray Sandstone

5. Well Completion

Date Started(yyyy/mm/dd): 1991/03/19	Date Completed (yyyy/mm/dd): 1991/03/22
Well Depth: 250 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: Puddled Clay from: 0 FT	to: 250 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
Chemistnes taken By Driller: No
Held: 0 Documents Held: 1

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

Comments:

6. Well Yield

Test Date (yyyy/mm/dd): 1991/03/22	Start Time: 11:00 AM
Test Method: Bailer	
Non pumping static level:	125 FT
Rate of water removal:	0 Gallons/Min
Depth of pump intake:	0 FT
Water level at end of pumping:	0 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?

7. Contractor Certification

Driller's Name:	UNKNOWN DRILLER
Certification No.:	VA4996

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0357254
Map Verified:	Not Verified
Date Report Received:	1991/05/17
Measurements:	

1. Contractor & Well Owner Information

Company Name: AARON DRILLING INC.		Drilling Company Approval No.: 11590
Mailing Address: BOX 28, SITE 9, RR1	City or Town: DE WINTON ALBERTA CANADA	Postal Code: T0L 0X0
WellOwner's Name: BAYLY, VIC #1590	Well Location Identifier:	
P.O. Box Number:	Mailing Address: 1475 550 5 AVE SW, CALGARY	Postal Code:
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	Westof M
NE	30	022	02	5

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: 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

4. Formation Log

Depth from ground level (feet)	Lithology Description
1	Topsoil
18	Clay
68	See Comments Clay & Rocks
158	Shale & Sandstone Ledges
178	See Comments Sandstone
180	Gray Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1991/04/11	Date Completed (yyyy/mm/dd): 1991/04/12
Well Depth: 180 FT	Borehole Diameter: 0 Inches
Casing Type: Steel	Liner Type: Plastic
Size OD: 6.62 Inches	Size OD: 5 Inches
Wall Thickness: 0.188 Inches	Wall Thickness: 0.258 Inches
Bottom at: 70 FT	Top: 60 FT Bottom: 180 FT
Perforations from: 140 FT to: 180 FT from: 0 FT to: 0 FT from: 0 FT to: 0 FT	Perforations Size: 0.125 Inches x 6 Inches 0 Inches x 0 Inches 0 Inches x 0 Inches
Perforated by: Machine	
Seal: Driven from: 0 FT	to: 70 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: Yes Held: 0	Documents Held: 1
Pitless Adapter Type: Drop Pipe Type: Length: FT	Diameter: Inches

Comments:
DEPTH 68'-BOULDERS: 163'- WATERBEARING SANDSTONE. TDS 800 PPM IRON 0.5 PPM HARDNESS 10 GRAINS

6. Well Yield

Test Date (yyyy/mm/dd): 1991/04/12	Start Time: 11:00 AM
Test Method: Bailer	
Non pumping static level:	50 FT
Rate of water removal:	2 Gallons/Min
Depth of pump intake:	0 FT
Water level at end of pumping:	0 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: 2 Gallons/Min

Recommended pump intake: 0 FT

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

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0358514
Map Verified:	Not Verified
Date Report Received:	1991/07/26
Measurements:	

1. Contractor & Well Owner Information

Company Name: AARON DRILLING INC.		Drilling Company Approval No.: 11590
Mailing Address: BOX 28, SITE 9, RR1	City or Town: DE WINTON ALBERTA CANADA	Postal Code: T0L 0X0
WellOwner's Name: PARKSIDE MGMT #1634	Well Location Identifier:	
P.O. Box Number: 21	Mailing Address: SITE 14 RR8, CALGARY	Postal Code: T2J 2T9
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	West of M
10	30	022	02	5

Location in Quarter
600 FT from S Boundary
475 FT from W Boundary

Lot 6 | Block | Plan

Well Elev: FT | How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
Reclaimed Well
Date Reclaimed: | Materials Used:

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

Method of Drilling: Rotary

Flowing Well: No
Gas Present: | Rate: Gallons
Oil Present:

4. Formation Log

Depth from ground level (feet)	Lithology Description
1	Topsoil
38	Clay & Rocks
42	Gray Shale
48	Gray Water Bearing Sandstone
80	Gray Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1991/07/04	Date Completed (yyyy/mm/dd): 1991/07/04
Well Depth: 80 FT	Borehole Diameter: 0 Inches
Casing Type: Steel	Liner Type: Plastic
Size OD: 6.62 Inches	Size OD: 5 Inches
Wall Thickness: 0.188 Inches	Wall Thickness: 0.258 Inches
Bottom at: 38 FT	Top: 30 FT Bottom: 80 FT
Perforations from: 40 FT to: 80 FT	Perforations Size: 0.125 Inches x 6 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: 38 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: Yes Held: 0	Documents Held: 1
Pitless Adapter Type: Drop Pipe Type: Length: FT	Diameter: Inches
Comments: TDS 800 PPM, IRON <.5 PPM, HARDNESS 14 GRAINS.	

6. Well Yield

Test Date (yyyy/mm/dd): 1991/07/04	Start Time: 11:00 AM
Test Method: Air	
Non pumping static level:	34 FT
Rate of water removal:	3 Gallons/Min
Depth of pump intake:	75 FT
Water level at end of pumping:	0 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: 2 Gallons/Min

Recommended pump intake: 75 FT

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

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0358515
Map Verified:	Not Verified
Date Report Received:	1991/07/26
Measurements:	

1. Contractor & Well Owner Information

Company Name: AARON DRILLING INC.		Drilling Company Approval No.: 11590
Mailing Address: BOX 28, SITE 9, RR1	City or Town: DE WINTON ALBERTA CANADA	Postal Code: T0L 0X0
WellOwner's Name: PARKSIDE MGMT #1633	Well Location Identifier:	
P.O. Box Number: 21	Mailing Address: SITE 14 RR8, CALGARY	Postal Code: T2J 2T9
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	Westof M
10	30	022	02	5

Location in Quarter
400 FT from S Boundary
400 FT from W Boundary

Lot: 4 | Block: | Plan:

Well Elev: FT | How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
Reclaimed Well
Date Reclaimed: | Materials Used:

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

Method of Drilling: Rotary

Flowing Well: No | Rate: Gallons
Gas Present: | Oil Present:

4. Formation Log

Depth from ground level (feet)	Lithology Description
1	Topsoil
3	Brown Clay
18	Sandy Clay & Gravel
22	Dry Clay
31	Yellow Shale
38	Gray Shale
41	Gray Sandstone
82	Gray Shale
85	Water Bearing Sandstone
105	Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1991/07/03	Date Completed (yyyy/mm/dd): 1991/07/03
Well Depth: 105 FT	Borehole Diameter: 0 Inches
Casing Type: Steel	Liner Type: Plastic
Size OD: 6.62 Inches	Size OD: 5 Inches
Wall Thickness: 0.188 Inches	Wall Thickness: 0.258 Inches
Bottom at: 48 FT	Top: 45 FT Bottom: 105 FT
Perforations from: 65 FT to: 105 FT	Perforations Size: 0.125 Inches x 6 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: 48 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: Yes Held: 0	Documents Held: 1
Pitless Adapter Type: Drop Pipe Type: Length: FT	Diameter: Inches
Comments: TDS 550 PPM, IRON .5 PPM, HARDNESS 4 GRAINS.	

6. Well Yield

Test Date (yyyy/mm/dd): 1991/07/03	Start Time: 11:00 AM
Test Method: Air	
Non pumping static level:	48 FT
Rate of water removal:	15 Gallons/Min
Depth of pump intake:	100 FT
Water level at end of pumping:	0 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: 100 FT

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

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0358516
Map Verified:	Not Verified
Date Report Received:	1991/07/26
Measurements:	

1. Contractor & Well Owner Information

Company Name: AARON DRILLING INC.		Drilling Company Approval No.: 11590
Mailing Address: BOX 28, SITE 9, RR1	City or Town: DE WINTON ALBERTA CANADA	Postal Code: T0L 0X0
WellOwner's Name: PARKSIDE MGMT #1642	Well Location Identifier:	
P.O. Box Number: 21	Mailing Address: SITE 14 RR8, CALGARY	Postal Code: T2J 2T9
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	Westof M
10	30	022	02	5

Location in Quarter
400 FT from S Boundary
5 FT from W Boundary

Lot 5 | Block | Plan

Well Elev: FT | How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
Reclaimed Well
Date Reclaimed: | 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): 1991/07/26 | Start Time: 11:00 AM
Test Method: Air

Non pumping static level: 28 FT

Rate of water removal: 7 Gallons/Min

Depth of pump intake: 75 FT

Water level at end of pumping: 0 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: 5 Gallons/Min

Recommended pump intake: 75 FT

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

4. Formation Log

Depth from ground level (feet)	Lithology Description
1	Topsoil
18	Brown Clay
28	Gray Shale
31	Gray Sandstone
52	Gray Shale
63	Gray Sandstone
68	Gray Shale
73	Gray Water Bearing Sandstone
80	Gray Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1991/07/17	Date Completed (yyyy/mm/dd): 1991/07/17
Well Depth: 80 FT	Borehole Diameter: 0 Inches
Casing Type: Steel	Liner Type: Plastic
Size OD: 6.62 Inches	Size OD: 5 Inches
Wall Thickness: 0.188 Inches	Wall Thickness: 0.258 Inches
Bottom at: 46 FT	Top: 40 FT Bottom: 80 FT
Perforations from: 45 FT to: 80 FT from: 0 FT to: 0 FT from: 0 FT to: 0 FT	Perforations Size: 0.125 Inches x 6 Inches 0 Inches x 0 Inches 0 Inches x 0 Inches
Perforated by: Saw	
Seal: Driven from: 0 FT	to: 46 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: Yes Held: 0	Documents Held: 1
Pitless Adapter Type: Drop Pipe Type: Length: FT	Diameter: Inches
Comments: TDS 550 PPM IRON .5 PPM, HARDNESS 3 GRAINS.	

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0358915
Map Verified:	Not Verified
Date Report Received:	1993/11/22
Measurements:	

1. Contractor & Well Owner Information

Company Name: KRIEGER DRILLING LTD.		Drilling Company Approval No.: 876
Mailing Address: RR 6	City or Town: CALGARY AB CA	Postal Code: T2M 4L5
WellOwner's Name: BAILEY, VIC	Well Location Identifier:	
P.O. Box Number: 23	Mailing Address: SITE 14 RR8, CALGARY	Postal Code: T2J 2T9
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	Westof M
NE	30	022	02	5

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-Abandoned Reclaimed Well
Date Reclaimed: 1993/07/01
Materials Used: Cuttings
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

4. Formation Log

Depth from ground level (feet)	Lithology Description
2	Topsoil
26	Brown Clay
31	Wet Gravel
37	Brown Sandstone
43	Gray Medium Grained Sandstone
77	Gray Sandy Shale
84	Gray Water Bearing Sandstone
118	Gray Sandy Shale
131	Gray Shale
134	Gray Fine Grained Sandstone
148	Gray Shale
152	Gray Fine Grained Sandstone
200	Gray Shale

5. Well Completion

Date Started(yyyy/mm/dd): 1993/07/01
Date Completed (yyyy/mm/dd): 1993/07/01
Well Depth: 200 FT
Borehole Diameter: 0 Inches
Casing Type: Steel
Liner Type:
Size OD: 6.62 Inches
Size OD: 0 Inches
Wall Thickness: 0.188 Inches
Wall Thickness: 0 Inches
Bottom at: 35 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
: 0 Documents Held: 1
Pitless Adapter Type:
Drop Pipe Type:
Length: Diameter:
Comments:
DRILLER REPORT 84'- 1-2 GPM.

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?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0359023
Map Verified:	Not Verified
Date Report Received:	1993/11/22
Measurements:	

1. Contractor & Well Owner Information

Company Name: KRIEGER DRILLING LTD.		Drilling Company Approval No.: 876
Mailing Address: RR 6	City or Town: CALGARY AB CA	Postal Code: T2M 4L5
WellOwner's Name: BAILEY, VIC	Well Location Identifier:	
P.O. Box Number: 23	Mailing Address: SITE 14 RR8, CALGARY	Postal Code: T2J 2T9
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	Westof M
NE	30	022	02	5

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: 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 (yyyy/mm/dd): 1993/07/04
Start Time: 11:00 AM
Test Method: Pump
Non pumping static level: 5.8 FT
Rate of water removal: 5 Gallons/Min
Depth of pump intake: 25 FT
Water level at end of pumping: 20.42 FT
Distance from top of casing to ground level: Inches

Depth To water level (feet)
Elapsed Time
Drawdown Minutes:Sec Recovery
Total Drawdown: 14 FT

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

Recommended pumping rate: 5 Gallons/Min

Recommended pump intake: 25 FT

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

4. Formation Log

Depth from ground level (feet)	Lithology Description
1	Topsoil
21	Sandy Clay
25	Clay & Rocks
30	Wet Sand & Gravel

5. Well Completion

Date Started(yyyy/mm/dd): 1993/07/03
Date Completed (yyyy/mm/dd): 1993/07/04
Well Depth: 30 FT
Borehole Diameter: 0 Inches
Casing Type: Steel
Liner Type:
Size OD: 6.62 Inches
Size OD: 0 Inches
Wall Thickness: 0.188 Inches
Wall Thickness: 0 Inches
Bottom at: 25 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: 25 FT
Seal:
from: 0 FT to: 0 FT
Seal:
from: 0 FT to: 0 FT

Screen Type: Stainless Steel
from: 25 FT to: 30 FT
Screen ID: 0.5 Inches
Slot Size: 0.05 inches

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

Screen Installation Method: Telescoped

Fittings
Top: Neoprene (Figure K) Bottom: Bail

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

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0359814
Map Verified:	Not Verified
Date Report Received:	1991/07/26
Measurements:	

1. Contractor & Well Owner Information

Company Name: AARON DRILLING INC.		Drilling Company Approval No.: 11590
Mailing Address: BOX 28, SITE 9, RR1	City or Town: DE WINTON ALBERTA CANADA	Postal Code: T0L 0X0
WellOwner's Name: PARKSIDE MGMT #1630	Well Location Identifier:	
P.O. Box Number: 21	Mailing Address: SITE 14 RR8, CALGARY	Postal Code: T2J 2T9
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	Westof M
10	30	022	02	5

Location in Quarter
550 FT from S Boundary
875 FT from W Boundary

Lot	Block	Plan
7		

Well Elev: FT — How Obtain: Not Obtain

3. Drilling Information

Type of Work: New Well
Reclaimed Well
Date Reclaimed: — Materials Used:

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

Method of Drilling: Rotary

Flowing Well: No — Rate: Gallons
Gas Present: — Oil Present:

6. Well Yield

Test Date (yyyy/mm/dd):	Start Time:
1991/06/28	0:00 AM

Test Method: Air

Non pumping static level:	48 FT
Rate of water removal:	1.5 Gallons/Min
Depth of pump intake:	235 FT
Water level at end of pumping:	0 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: 3 Gallons/Min

Recommended pump intake: 235 FT

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

4. Formation Log

Depth from ground level (feet)	Lithology Description
1	Topsoil
46	Clay & Rocks
52	Gray Sandstone
103	Gray Shale
125	Gray Sandstone
152	Gray Shale
195	Gray See Comments Sandstone
221	Greenish Gray Shale
223	Yellow See Comments Shale
240	Gray Shale

5. Well Completion

Date Started(yyyy/mm/dd):	Date Completed (yyyy/mm/dd):
1991/06/28	1991/06/28
Well Depth: 240 FT	Borehole Diameter: 0 Inches
Casing Type: Steel	Liner Type: Plastic
Size OD: 6.62 Inches	Size OD: 5 Inches
Wall Thickness: 0.188 Inches	Wall Thickness: 0.258 inches
Bottom at: 62 FT	Top: 60 FT Bottom: 240 FT
Perforations from: 180 FT to: 240 FT	Perforations Size: 0.125 Inches x 6 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: 62 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: Yes
Held: 0 Documents Held: 1

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

Comments:
TDS 450 PPM, IRON .5 PPM, HARDNESS 3 GRAINS, TRACE H2S. 195'- 1 GPM; 223'- 3 GPM. RECOVERED 90 GALLONS IN 20 MIN.

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER

Water Well Drilling Report

Alberta Environment

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

Well I.D.:	0377454
Map Verified:	Not Verified
Date Report Received:	
Measurements:	

1. Contractor & Well Owner Information

Company Name: WATKINS DRILLING		Drilling Company Approval No.:
Mailing Address:	City or Town:	Postal Code:
WellOwner's Name: CAMERON, WM	Well Location Identifier:	
P.O. Box Number:	Mailing Address: RR8, CALGARY	Postal Code:
City:	Province:	Country:

2. Well Location

1/4 or LSD	Sec	Twp	Rge	West of M
NE	30	022	02	5

Location in Quarter
0 FT from Boundary
0 FT from Boundary

Lot Block Plan

Well Elev:	How Obtain:
3500 FT	Estimated

3. Drilling Information

Type of Work: New Well
Reclaimed Well
Date Reclaimed: 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

4. Formation Log

Depth from ground level (feet)	Lithology Description
60	Yellow Clay
65	Sandrock
80	Blue Clay
115	Sandrock

5. Well Completion

Date Started(yyyy/mm/dd):	Date Completed (yyyy/mm/dd): 1969/06/04
Well Depth: 115 FT	Borehole Diameter: 0 Inches
Casing Type: Unknown	Liner Type:
Size OD: 5 Inches	Size OD: 0 Inches
Wall Thickness: 0 Inches	Wall Thickness: 0 Inches
Bottom at: 115 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: Loose
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:

6. Well Yield

Test Date (yyyy/mm/dd):	Start Time:
1969/06/04	11:00 AM

Test Method: Unknown

Non pumping static level:	40 FT
Rate of water removal:	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?

7. Contractor Certification

Driller's Name: UNKNOWN DRILLER
Certification No.:

ALBERTA ENVIRONMENTAL PROTECTION

COMPUTER GENERATED WATER WELL DRILLER'S REPORT FORM

WELL I.D. 497152

Page 1 of 1

THIS DATA MAY NOT BE FULLY CHECKED; THE PROVINCE DISCLAIMS ALL RESPONSIBILITY FOR ITS ACCURACY:

CONTRACTOR:

NAME: AARON/INTERPROVINCIAL WATERWELL DRILLING

ADDRESS: Box 28, Site 9, R.R.1
DeWinton, Alberta T0L-0X0

LICENCE NO.: 0892 JOURNEYMAN NO.: VA4996

WELL OWNER:

NAME: BAYLEY VIC #4160

ADDRESS: SSSITE 14 R R 8 CALGARY ALTA
P.O. Box 23

POSTAL CODE: T2J 2T9

WELL LOCATION: IC#:

¼ OR LSD	SEC	TWP	RGE	W. MER
NE	30	022	02	W5

LOCATION VERIFICATION METHOD: FIELD
LOCATION IN QUARTER:

LOT: 1 BLOCK: PLAN:
WELL ELEV: Feet How obtain: SURVEY-AIR

FORMATION LOG DESCRIPTION:

Depth (Feet):	Lithology:
Ground to:	
1	Topsoil
25	Till
57	Brown Sandstone
63	Gray Shale
72	Sandstone
82	Green Shale
91	Sandstone
95	Gray Shale
108	Water Bearing Sandstone
115	Gray Shale

DRILLING METHOD: ROTARY

TYPE OF WORK: NEW WELL

FLOWING WELL: **RATE:**
GAS PRESENT: No OIL PRESENT: No
DATE OF ABANDONMENT:
MATERIAL USED:

PROPOSED USE: DOMESTIC

WELL COMPLETION DATA:

WELL FINISH: CASING/PERFORATED LINER
TOTAL HOLE DEPTH: 115 Feet

CASING TYPE: STEEL
SIZE OD: 6.62 Inch WALL THICKNESS: 0.188 Inch
BOTTOM AT: 38 Feet

PERFORATED CASING/LINER:
TYPE: PLASTIC
SIZE OD: 5.00 Inch ID: Inch
WALL THICKNESS: 0.219 Inch
TOP AT: 35 Feet BOTTOM AT: 115 Feet
PERFORATED FROM: 95 Feet TO: 115 Feet
Feet TO: Feet
Feet TO: Feet

SIZE OF PERFORATIONS: 0.188 Inch X 6.000 Inch
HOW PERFORATED: SAW

SEAL TYPE: DRIVEN
INTERVAL TOP: 36 Feet TO: 38 Feet

GEOPHYSICAL LOG TAKEN:
RETAINED ON FILE:

SCREEN:
MATERIAL:
SIZE ID (CLEAR): Inch SLOT SIZE: Inch
INTERVAL TOP: Feet TO: Feet
Feet TO: Feet

INSTALLATION METHOD:
TOP FITTINGS:
BOTTOM FITTINGS:

PACK TYPE:
GRAIN SIZE: AMOUNT:

PITLESS ADAPTER TYPE:
DROP PIPE TYPE: LENGTH: Feet
DIAMETER: Inch
ADDITIONAL PUMP INFORMATION:

PRODUCTION TEST:
TEST DATE: September 15, 1900 START TIME: 3:00

Elapsed Time in Min:Sec	Depth to Water Level During Pumping (Feet)	Depth to Water Level During Recovery (Feet)
10:00	48.	55.
100:00	57.6	45.
300:00	64.6	41.
590:00	68.2	38.7
790:00	70.1	

WATER REMOVAL RATE DURING TEST: 3 Gal/Min
TEST DURATION: 13 Hours 10 Minutes
TESTING METHOD: PUMP
DEPTH OF PUMP/DRILL STEM: 100 Feet
WATER LEVEL AT END OF TEST: 70 Feet
NON-PUMPING(STATIC) WATER LEVEL: 37.0 FEET
TOTAL DRAWDOWN: 43 Feet

RECOMMENDED PUMPING RATE: 3 Gal/Min
RECOMMENDED PUMP INTAKE AT: 105 Feet
TYPE OF PUMP INSTALLED:
MODEL: H.P.:

DATE WORK STARTED: September 16, 1900

COMMENTS: TDS 550 IRON <0.5 HARD 5 PUMP TEST MONITORED BY DATA LOGGER Q20 BY GROUNDWATER EX
(Maximum of 9 lines printed)

DATE WORK COMPLETED: September 16, 1900

ADDITIONAL TEST AND/OR PUMP DATA:

CHEMISTRIES HELD: DOCUMENTS HELD: 1

WELL OWNER'S ANTICIPATED WATER REQUIREMENTS PER DAY: 500 Gallons

DATE FORM PRINTED: September 20, 200012:02:27 **DATE DATA KEYED:** September 20, 2000 GIC5 BM

ALBERTA ENVIRONMENTAL PROTECTION

COMPUTER GENERATED WATER WELL DRILLER'S REPORT FORM

WELL I.D. 497153

THIS DATA MAY NOT BE FULLY CHECKED; THE PROVINCE DISCLAIMS ALL RESPONSIBILITY FOR ITS ACCURACY:

CONTRACTOR:

NAME: AARON/INTERPROVINCIAL WATERWELL DRILLING

ADDRESS: Box 28, Site 9, R.R.1
DeWinton, Alberta T0L-0X0

LICENCE NO.: 0892 JOURNEYMAN NO.: VA4996

WELL OWNER:

NAME: BAYLEY VIC #4163

ADDRESS: SITE 14 R R 8 CALGARY ALTA
P.O. Box 23

POSTAL CODE: T2J 2T9

WELL LOCATION: IC#:

¼ OR LSD	SEC	TWP	RGE	W. MER
NE	30	022	02	W5

LOCATION VERIFICATION METHOD: FIELD
LOCATION IN QUARTER:

LOT: 2 BLOCK: PLAN:
WELL ELEV: Feet How obtain: SURVEY-Ali

FORMATION LOG DESCRIPTION:

Depth (Feet):	Lithology:
Ground to:	
1	Topsoil
19	Till
68	Brown Sandstone
73	Gray Shale
83	Wet Sandstone
97	Green Shale
110	Water Bearing Sandstone
115	Gray Shale

DRILLING METHOD: ROTARY

TYPE OF WORK: NEW WELL

FLOWING WELL: **RATE:**

GAS PRESENT: No **OIL PRESENT:** No

DATE OF ABANDONMENT:

MATERIAL USED:

PROPOSED USE: DOMESTIC

WELL COMPLETION DATA:

WELL FINISH: CASING/PERFORATED LINER
TOTAL HOLE DEPTH: 115 Feet

CASING TYPE: STEEL
SIZE OD: 6.62 Inch WALL THICKNESS: 0.188 Inch
BOTTOM AT: 38 Feet

PERFORATED CASING/LINER:

TYPE: PLASTIC
SIZE OD: 5.00 Inch ID: Inch
WALL THICKNESS: 0.219 Inch
TOP AT: 35 Feet BOTTOM AT: 115 Feet
PERFORATED FROM: 95 Feet TO: 115 Feet
Feet TO: Feet
Feet TO: Feet

SIZE OF PERFORATIONS: 0.188 Inch X 6.000 Inch
HOW PERFORATED: SAW

SEAL TYPE: DRIVEN
INTERVAL TOP: 36 Feet TO: 38 Feet

GEOPHYSICAL LOG TAKEN:
RETAINED ON FILE:

SCREEN:

MATERIAL:
SIZE ID (CLEAR): Inch SLOT SIZE: Inch
INTERVAL TOP: Feet TO: Feet
Feet TO: Feet

INSTALLATION METHOD:
TOP FITTINGS:
BOTTOM FITTINGS:

PACK TYPE:

GRAIN SIZE: AMOUNT:

PITLESS ADAPTER TYPE:
DROP PIPE TYPE: LENGTH: Feet
DIAMETER: Inch
ADDITIONAL PUMP INFORMATION:

PRODUCTION TEST:

TEST DATE: September 18, 1900 **START TIME:** 3:0(

Elapsed Time In Min:Sec	Depth to Water Level During Pumping (Feet)	Depth to Water Level During Recovery (Feet)
10:00	39.9	49.4
100:00	46.6	39.7
300:00	50.2	37.1
770:00	54.2	35.6
1210:00		34.9

WATER REMOVAL RATE DURING TEST: 3 Gal/Min
TEST DURATION: 12 Hours 50 Minutes
TESTING METHOD: PUMP
DEPTH OF PUMP/DRILL STEM: 100 Feet
WATER LEVEL AT END OF TEST: 54 Feet
NON-PUMPING(STATIC) WATER LEVEL: 33.7 FEET
TOTAL DRAWDOWN: 20 Feet

RECOMMENDED PUMPING RATE: 3 Gal/Min
RECOMMENDED PUMP INTAKE AT: 105 Feet
TYPE OF PUMP INSTALLED:
MODEL: H.P.:

DATE WORK STARTED: September 7, 1900

COMMENTS: WATER ANALYSIS TDS 650 IRON <0.5 HARD 5 PUMP TST MONITORED BY DATA LOGGER Q20 INTERP BY GROUNDWATER EX.
(Maximum of 9 lines printed)

DATE WORK COMPLETED: September 7, 1900

ADDITIONAL TEST AND/OR PUMP DATA:

CHEMISTRIES HELD: DOCUMENTS HELD: 1

WELL OWNER'S ANTICIPATED WATER REQUIREMENTS PER DAY: 500 Gallons

DATE FORM PRINTED: September 20, 200012:02:28 **DATE DATA KEYED:** September 20, 2000 GIC5 BM

ALBERTA ENVIRONMENTAL PROTECTION

COMPUTER GENERATED WATER WELL DRILLER'S REPORT FORM

WELL I.D. 339681

Page 1 of 1

THIS DATA MAY NOT BE FULLY CHECKED; THE PROVINCE DISCLAIMS ALL RESPONSIBILITY FOR ITS ACCURACY:

CONTRACTOR:

NAME: AARONINTERPROVINCIAL WATERWELL DRILLING

ADDRESS: Box 28, Site 9, R.R.1 DeWinton, Alberta T0L-0X0

LICENCE NO.: 0892 JOURNEYMAN NO.: VA4996

WELL OWNER:

NAME: BAYLY,VIC#6030

ADDRESS: SITE 14 R R 8 CALGARY P O. Box 23

POSTAL CODE: T2J 2T9

WELL LOCATION: IC#:

¼ OR LSD	SEC	TWP	RGE	W. MER
NE	30	022	02	W5

LOCATION VERIFICATION METHOD: FIELD
LOCATION IN QUARTER:

LOT: BLOCK: PLAN:
WELL ELEV: Feet How obtain: SURVEY-AIR

FORMATION LOG DESCRIPTION:

Depth (Feet)	Lithology
Ground to:	
2	Topsoil
16	Moist Clay
24	Sandy Till & Gravel
38	Brown Sandstone
62	Sandstone
64	Gray Hard Sandstone
68	Sandstone
70	Hard Shale
90	Water Bearing Sandstone
92	Hard Sandstone
100	Salt & Pepper Sandstone

DRILLING METHOD: ROTARY

TYPE OF WORK: NEW WELL

FLOWING WELL: RATE:

GAS PRESENT: No OIL PRESENT: No

DATE OF ABANDONMENT:

MATERIAL USED:

PROPOSED USE: DOMESTIC

WELL COMPLETION DATA:

WELL FINISH: CASING/PERFORATED LINER

TOTAL HOLE DEPTH: 100 Feet

CASING TYPE: STEEL

SIZE OD 6.62 Inch WALL THICKNESS: 0.188 Inch

BOTTOM AT: 30 Feet

PERFORATED CASING/LINER:

TYPE: PLASTIC

SIZE OD: 5.00 Inch ID: Inch

WALL THICKNESS: 0.219 Inch

TOP AT: 29 Feet BOTTOM AT: 100 Feet

PERFORATED FROM: 80 Feet TO: 95 Feet
Feet TO: Feet
Feet TO: Feet

SIZE OF PERFORATIONS: 0.188 Inch X 8.000 Inch

HOW PERFORATED: SAW

SEAL TYPE: DRIVEN

INTERVAL TOP: 26 Feet TO 30 Feet

GEOPHYSICAL LOG TAKEN:
RETAINED ON FILE:

SCREEN:

MATERIAL:

SIZE ID (CLEAR): Inch SLOT SIZE: Inch

INTERVAL TOP: Feet TO: Feet
Feet TO: Feet

INSTALLATION METHOD:

TOP FITTINGS:

BOTTOM FITTINGS:

PACK TYPE:

GRAIN SIZE: AMOUNT

PITLESS ADAPTER TYPE:
DROP PIPE TYPE: LENGTH: Feet
DIAMETER: Inch
ADDITIONAL PUMP INFORMATION:

PRODUCTION TEST:

TEST DATE: May 23, 1906 START TIME: 15:00

Elapsed Time in Min:Sec	Depth to Water Level During Pumping (Feet)	Depth to Water Level During Recovery (Feet)
10:00	9.7	28.3
100:00	15.0	22.8
300:00	21.7	18.4
720:00	30.6	14.5
770:00	31.2	13.7
2430:00		9.7

WATER REMOVAL RATE DURING TEST: 6 Gal/Min
TEST DURATION: 13 Hours 33 Minutes
TESTING METHOD: PUMP
DEPTH OF PUMP/DRILL STEM: 90 Feet
WATER LEVEL AT END OF TEST: 31 Feet
NON-PUMPING(STATIC) WATER LEVEL: 74.0 FEET
TOTAL DRAWDOWN: 23 Feet

RECOMMENDED PUMPING RATE: 5 Gal/Min
RECOMMENDED PUMP INTAKE AT: 90 Feet
TYPE OF PUMP INSTALLED:
MODEL: H.P.:

DATE WORK STARTED: May 23, 1906

DATE WORK COMPLETED: May 23, 1906

ADDITIONAL TEST AND/OR PUMP DATA:

CHEMISTRIES HELD DOCUMENTS HELD: 1

WELL OWNER'S ANTICIPATED WATER REQUIREMENTS PER DAY 500 Gallons

COMMENTS: TDS 1100 IRON <.5 HARD 1 PUMP TST MONITORED BY DATA LOGGER
(Maximum of 9 lines printed)

Attachment 6A

DATE FORM PRINTED: July 10, 2006 14:34:54 DATE DATA KEYED: July 10, 2006 GIC5 DC

#06-46

Attachment 7

Groundwater Supply Evaluation
Bayly well: NE-30-22-02-W5M

Submitted to:

Aaron Drilling and
Vic Bayly

Prepared by:

Groundwater Exploration & Research Ltd.
July 2006

Groundwater
Exploration & Research

Groundwater Exploration & Research Ltd

Box 15
Balzac, Alberta; T0M 0E0
Phone: (403) 226-0330 Fax: (403) 226-6593 Email: gerl@telus.net

July 20, 2006
File No: 06-46

Aaron Drilling Inc
Box 28, Site 9, RR1
DeWinton, AB.
T0L 0X0

Attention: Brad Meyers

RE: Proposed subdivision of the Bayly property at NE-30-22-02-W5M: Municipal District of Foothills

Enclosed find our letter report which summarizes well completion details; includes a table of pump test data; a graph of the drawdown and recovery data from a field test conducted on the well; and makes a recommendation with respect to the calculated Q_{20} for a well at the above captioned location.

1.0 Background Information

The subject property is located northeast of the Hamlet of Priddis near the intersection of 162 Avenue and 176 Street West. The parent parcel is a +/-35.68 hectare [88.16 acres] parcel from which a +/-2.13 hectare [5.27 acre] parcel will be created leaving a residual +/-33.55 hectare [82.89 acre] parcel with an existing well and residence. A well test was conducted on a new well drilled on the +/-2.13 hectare [5.27 acre] #6030 well parcel.

2.0 Well Completion Details

Total Depth:		30.49 meters
Non-Pumping Water Level:		2.26 meters below top of casing
Surface Casing:		168 mm steel set to 9.15 meters
Liner:		127 mm PVC set from 8.84 to 30.49 meters; perforated from 24.39 to 28.96 meters
Drilling Contractor:		Aaron Drilling
Pump Test Contractor:		Aaron Drilling
Date Drilled:		May 23, 2006
Lithology:	0.00 - 4.88	moist clay
	4.88 - 7.32	sandy till & gravel
	7.32 - 11.59	brown sandstone
	11.59 - 18.90	sandstone
	18.90 - 19.51	hard, gray sandstone
	19.51 - 20.73	sandstone
	20.73 - 21.34	hard shale
	21.34 - 27.44	water-bearing sandstone
	27.44 - 28.05	hard sandstone
	28.05 - 30.49	salt & pepper sandstone

3.0 Well Test Results

The new well was flow tested by Aaron Drilling on June 19, 2006. The well was pumped at a rate of 39.27 m^3/day [6 Cgpm] for 760 minutes followed by 1670 minutes of recovery. Water level measurements were recorded automatically by Aaron Drilling using a pressure transducer and data logger.

The maximum drawdown was observed to be 7.26 meters during the 760 minute test at a pumping rate of 39.27 m^3/day [6 Cgpm]. After 1670 minutes of termination of pumping, the water level in the well had recovered 90.3 percent.

The maximum available drawdown, measured from the non-pumping water level of 2.26 meters, and the top of the water-bearing sandstone zone at 21.34 meters is 19.08 meters.

Transmissive capacity has been determined graphically using the Cooper and Jacob semilog plot method, with transmissive capacity based usually on the final limb of the curve according to:

T = 2.3Q/4*pi*delta s

where: T = transmissive capacity, in m^2/day
Q = pump rate, in m^3/day
s = drawdown over one log cycle

and by the non-graphical Sheahan Z(u) and Kasenow-SAM methods.

Transmissive capacity, determined from the above methods is summarized as follows:

Stage	Delta s	Transmissivity
drawdown	6.87	1.05
residual drawdown	7.89	0.91
Sheahan Z(u)		1.19
Kasenow-SAM		1.33

Based on the above methods of analysis, the geometric mean transmissive capacity is 1.11 m^2/day. It should be noted that the calculated transmissive capacity value is time dependent, flow rate dependent [particularly for fractured or stratified heterogeneous media] and reflects the response of an aquifer for the particular time of the year during which the test was conducted. Transmissive capacity is not a constant everywhere in an aquifer and is generally characterized by a log-normal distribution.

The 20 year, long term safe yield index (Q_{20}), neglecting well loss, is determined from the equation:

$$\mathbf{Q_{20} = 0.683TH}$$

where: Q20 = 20 year, long term safe yield, in m^3/day

T = effective transmissive capacity, in m^2/day

H = available drawdown, in meters

The calculation of the 20 year safe yield index for an aquifer, assuming isotropic, homogeneous conditions is derived by extrapolating a downward trend so that the available drawdown lasts for 20 years. This approach neglects the effects of recharge, and is, therefore, a conservative approach.

It is common practice to adjust the Q_{20} by a safety factor to account for unknown boundary conditions due to test duration, well deterioration, well inefficiency, seasonal variability in non-pumping water level and errors associated with assuming isotropic, homogeneous aquifer conditions.

Based on a factor of safety of 1.5 the calculated Q_{20} is 9.64 m^3/day (1.47 lgpm).

In accordance with the Water Act, every household user is entitled to divert up to a maximum of 1250 cubic meters per year or 3.42 m^3/day. Based on well test data, the #6030 production well is capable of providing the allotted 1250 m^3/year.

4.0 Licenced Users

A review of existing Alberta Environmental Protection groundwater licences indicates no licenced users within an 800 meter radius of the new production well. Operation of the domestic well will not, therefore, interfere with any licenced user existing at the time of subdivision application.

5.0 Well Interference

Country residential subdivision is subject to the following sections of the Water Act and the Water Regulation:

Section 23(3) of the Water Act states:

If after this Act comes into force, a subdivision of land of a type or class of subdivision specified in the regulations is approved under the Municipal Government Act, a person residing within that subdivision on a parcel of land that adjoins or is above a source of water described in section 21 has the right to commence and continue the diversion of water under section 21 only if

(a) a report certified by a professional engineer, professional geologist, or professional geophysicist, as defined in the Engineering, Geological and Geophysical Professions Act, was submitted to the subdivision authority as part of the application for the subdivision under the Municipal Government Act, and the report states that the diversion of 1250 cubic meters of water per year for household purposes under section 21 for each of the households within the subdivision will not interfere with any household users, licensees, or traditional agriculture users who exist when subdivision is approved, and

(b) the diversion of water for each household within the subdivision under section 21 is not inconsistent with an applicable approved water management plan

This report is submitted in order to satisfy the requirements of Section 23(3) of the Water Act. It must certify that there is a sufficient groundwater supply to provide 1250 cubic meters of water per subdivided lot per year within the proposed subdivision. It further assumes that there will be only one household per subdivided lot.

This report provides an assessment of water quantity at the time of application for the proposed subdivision. It does not provide for cumulative impacts over time, or the ability of the aquifer to sustain such diversion over time.

Section 23(3) of the Water Act requires as assessment of the potential for "interference" between the new wells on the proposed subdivided lots and existing licensed and traditional agriculture wells. Interference, or more specifically, well interference calculations result in irrelevant findings for the following reasons:

(1) Well interference can be thought of as an artificial boundary conditions resulting from the overlapping of cones of depression created by wells pumping on a continuous basis [Driscoll (1986: Groundwater and Wells, pages 242-243]. Household wells do not operate on a continuous basis. Rather they operate for short periods of pumping time followed by long periods of recovery. In essence, only water held in storage in the well is pumped to the pressure tank system and then the pump shuts down. As there is no continuous pumping, a cone of depression is not developed.

(2) Well interference calculations assume a constant transmissive capacity between wells in order that the calculations have any significant meaning. Bibby [1979: Estimating sustainable yield to a well in heterogeneous strata; Alberta Research Council Bulletin 37] has indicated that, in Alberta there exists no practical method for determining spatial variations of transmissivity of heterogeneous aquifers. Transmissive capacity values are not constant within a given aquifer, and in fact are log-normally distributed. Well interference, therefore, can not be determined with any degree of certainty due to the complexity of natural heterogeneous aquifers.

(3) Well interference becomes moot in any event. Section 27 of the Water Act provides that no country residential household user has any priority to divert and use water over any other country residential householder. Groundwater is seen as a common reservoir on which all household users may draw simultaneously and up to their allocated 1250 cubic meters per year, notwithstanding that a householder well may run dry.

Increased country residential development has the potential to impact the regional non-pumping water level. One approach to determine such impact is to review and analyze water well records for a ten year period [decade basis] within a given quarter section or block of nine quarter sections.

Historical, geometric mean, non-pumping water level data has been summarized for the NE-30 quarter section. The data are tabulated as follows:

Decade	No of Well Records	gm Npwl (m)	gm Well Depth (m)
1960s	1	12.2	35.1
1990s	9	12.1	37.4
2000s	1	11.3	35.1

There is no evidence for a progressive decline in regional water level based on existing water well information. The recent Bayly well has a non-pumping water level of 2.26 meters, which is higher than those levels observed in the past.

7.0 Summary of Findings

Based on the results of the flow test and drill log completion data, the following conclusions have been drawn:

[1] The groundwater production well is capable of providing a maximum of 1250 m^3/year in accordance with Section 23(3) of the Water Act for the proposed +/-2.13 hectare [5.27 acre] #6030 well parcel .

[2] Pumping of the new well, for household purposes, will not interfere with any household users, licensees or traditional agricultural users who exist at the time of subdivision application.

[3] Historical non-pumping water levels do not indicate a concern for any significant decline in regional water level.

[4] It would be prudent to equip the well pump with a flow restrictor [approximately 2.0 US gpm Dole valve] to prevent overpumping and stressing of the aquifer. Canada Mortgage and Housing Corporation recommends that a well should be able to pump 3.0 lgpm for a 120 minute period. If the well pumps less than 3.0 lgpm, it is recommended that additional storage be created using a cistern [reference: CMHC – Buying a House with a Well and Septic System].

7.0 Closure

The well owner should be aware, in accordance with Alberta Environment document: Chapter 2 - Draft Environment Guidelines for the Review of Subdivisions in Alberta (September 1998), that additional information may be required with this report, particularly chemical and bacteriological analysis of the well water, to ensure that the water quality meets drinking water quality guidelines.

This Report is written based on new flow test data, historical well record data and scientific assessment as presented and stated. The assessment provides the probability of groundwater supply based on analysis of data and information available at the date of writing. It does not provide a guarantee of groundwater supply or the sustainability of such supply. It does not provide any statement of cumulative impacts as the Water Regulation is restricted to a quarter section of land.

This Report is for use by the named applicant in support of the current application for country residential subdivision of the identified lands under provisions of the Municipal Government Act and the Water Act. Any other use of this Report is unauthorized and prohibited. Assessment and reporting has been carried out in accordance with generally accepted hydrogeological practices for the purposes stated. No other warranty is implied or intended.

If you have any questions or comments regarding the conclusions drawn in this groundwater supply evaluation, contact the undersigned at your convenience.

Respectfully yours,
Groundwater Exploration & Research Ltd.

PROFESSIONAL GEOLOGIST ALBERTA
ROBERT NOWAK

Bob Nowak

PERMIT TO PRACTICE
Groundwater Exploration & Research Ltd.
Signature B. Nowak
Date Jul 20/06
PERMIT NUMBER: P 3471
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Bob Nowak: Ph.D., P.Geol.
Groundwater Geologist

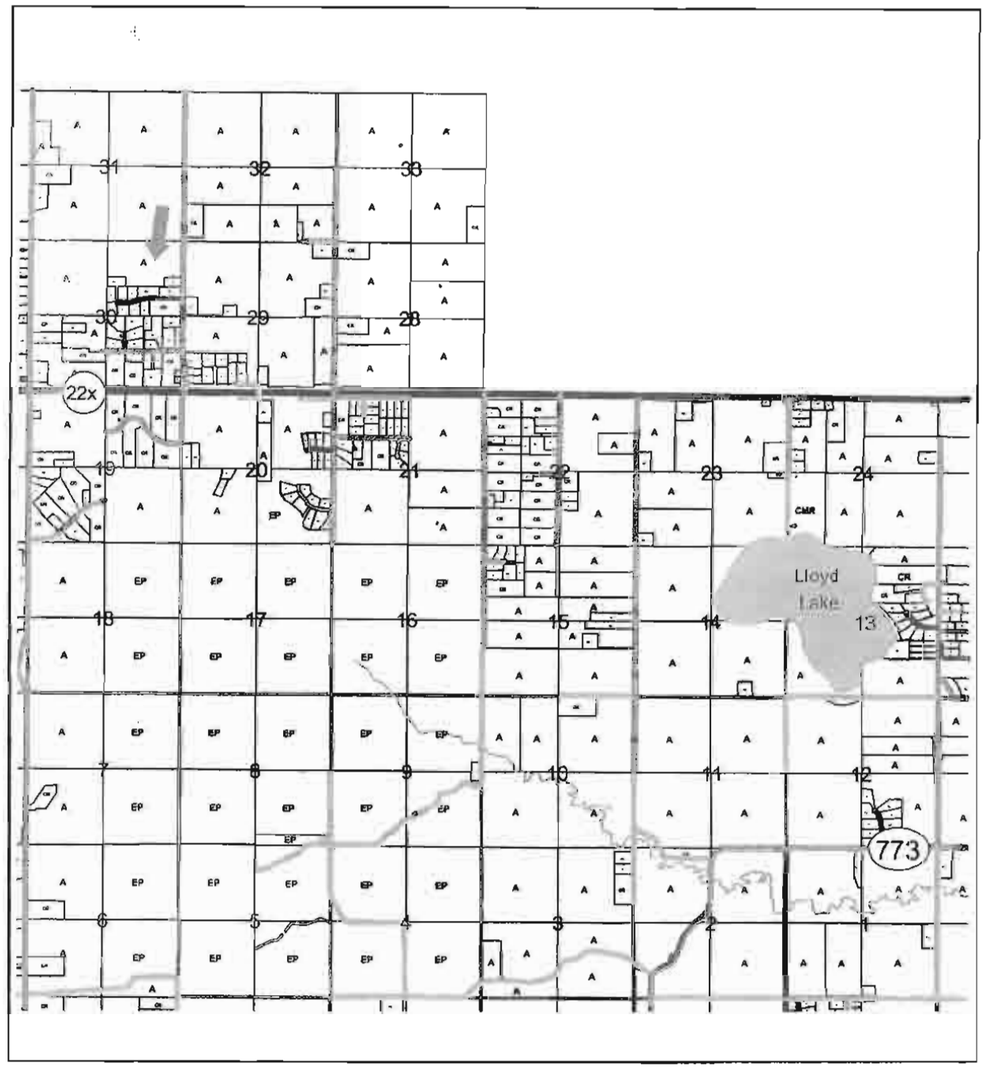
Groundwater
Exploration & Research

Appendix

Municipal District of Foothills No. 31
Land Use Map Book

LU Map 2202

(22-02 W5)



0 0.5 1 Kilometers

Scale 1:60,000

Mar 31, 2006

LEGEND

A	Agricultural
CMH	Commercial Hamlet
CMY	Commercial Highway
CMP	Commercial Park
CMR	Commercial Rural
CR	Country Residential
CRA	Country Residential- Subdistrict A
DC1	Direct Control - Spruce Meadows
DC2	Direct Control - Aldersyde Industrial
DC3	Direct Control - Smed
DC4	Direct Control - Private Airport
DC5	Direct Control - Airport
DC6	Direct Control - Gravel Pit
DC7	Direct Control - Silver Tip Ranch Commercial
DC8	Direct Control - Telecommunications Tower
DC9	Direct Control - Nature's Hideaway Campground
DC10	Direct Control - Paradise Ranch Resort
EP	Environmental Protection
ER	Environmental Reserve
INH	Industrial - Hamlet
INN	Industrial - Natural Resources
INP	Industrial - Park
INR	Industrial - Rural
MR	Municipal Reserve
R	Residential
RA	Residential- Subdistrict A
REC	Recreation
	Multiple Land Use (ie. A/CR)

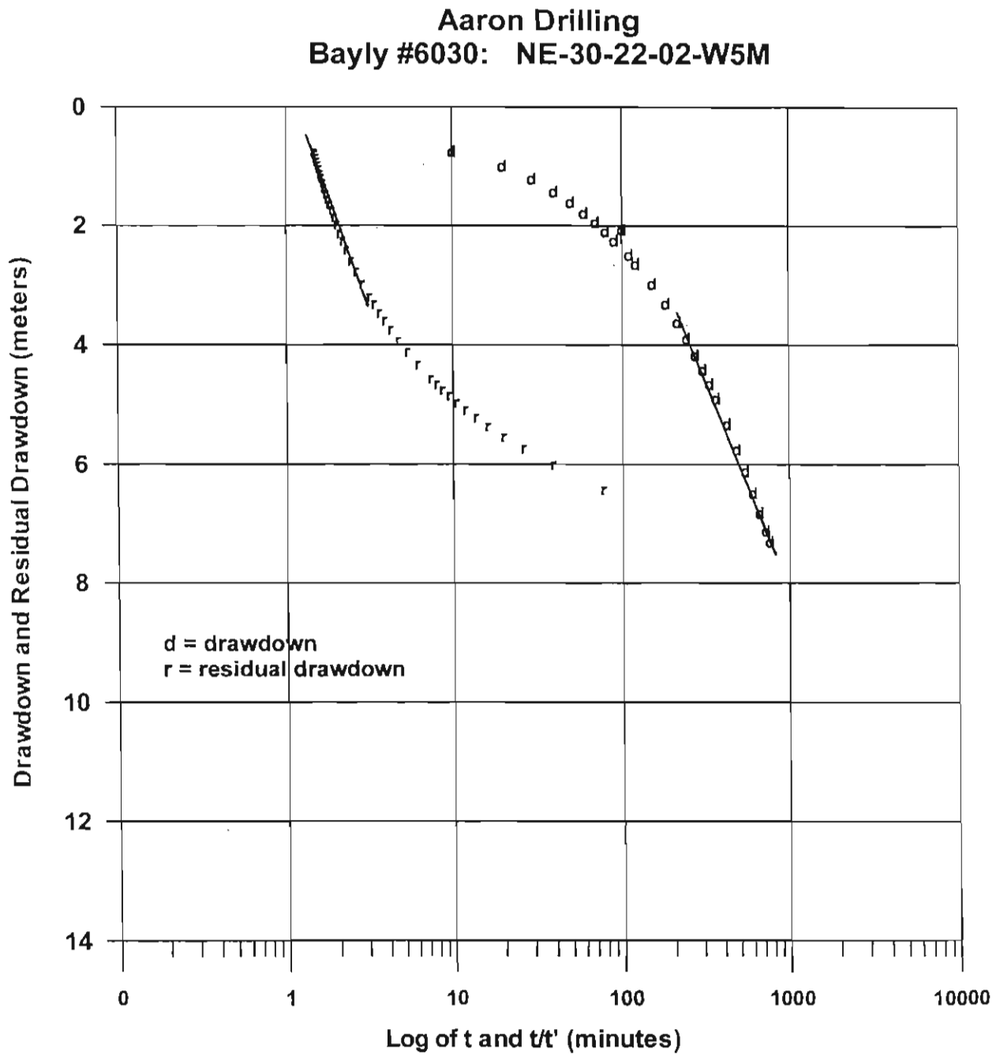
Pump Test Data
NE-30-22-02-W5M

Project: Bayly well
Date: June 19-21, 2006
Non-Pumping Water Level: 2.26 meters, below top of casing
Pump Test Rate: 39.27 m^3/day (6 Igpm)
Test Duration: 760 + 1670 minutes

Elapsed Time t (min)	Drawdown (m)	Elapsed Time t/t' (min)	Residual Drawdown (m)
10	0.701	77	6.372
20	0.945	39	5.945
30	1.159	26.3	5.671
40	1.372	20	5.488
50	1.555	16.2	5.305
60	1.738	13.6	5.152
70	1.890	11.8	5.030
80	2.043	10.5	4.909
90	2.195	9.4	4.787
100	2.012	8.6	4.695
110	2.439	7.9	4.604
120	2.591	7.3	4.512
150	2.927	6	4.268
180	3.262	5.2	4.055
210	3.567	4.62	3.872
240	3.841	4.17	3.689
270	4.116	3.81	3.537
300	4.360	3.53	3.415
330	4.604	3.3	3.262
360	4.848	3.11	3.140
420	5.274	2.81	2.927
480	5.701	2.58	2.713
540	6.067	2.41	2.530
600	6.433	2.27	2.348
660	6.768	2.15	2.195
720	7.073	2.06	2.073
760	7.256	1.97	1.921
		1.90	1.799
		1.84	1.677

Pump Test Data (continued)
Bayly well: NE-30-22-01-W5M

Elapsed Time t (min)	Drawdown (m)	Elapsed Time t/t' (min)	Residual Drawdown (m)
		1.79	1.585
		1.75	1.494
		1.70	1.402
		1.67	1.311
		1.63	1.220
		1.60	1.128
		1.58	1.067
		1.55	0.976
		1.53	0.915
		1.51	0.854
		1.49	0.793
		1.47	0.732
		1.46	0.701


Aaron Drilling
Bayly #6030: NE-30-22-02-W5M
Drawdown and Residual Drawdown (meters)
0
2
4
6
8
10
12
14
d = drawdown
r = residual drawdown
0
1
10
100
1000
10000
Log of t and t/t' (minutes)

AARON DRILLING PUMP TEST RESULTS

Job ID	6030	
Well Depth	100	ft.
N.P.W.L	7.4	ft.
Logger Set At:	88.6	ft.
Test Rate	6	igpm
Time Intervals	10	min.

Data Point	Date	Minutes	Water Above	Logger Level	Water Level	Comments
1	19/06/2006	0	81.2	88.6	7.40	Pump started
2	19/06/2006	10	78.9	88.6	9.70	
3	19/06/2006	20	78.1	88.6	10.50	
4	19/06/2006	30	77.4	88.6	11.20	
5	19/06/2006	40	76.7	88.6	11.90	
6	19/06/2006	50	76.1	88.6	12.50	
7	19/06/2006	60	75.5	88.6	13.10	
8	19/06/2006	70	75	88.6	13.60	
9	19/06/2006	80	74.5	88.6	14.10	
10	19/06/2006	90	74	88.6	14.60	
11	19/06/2006	100	73.6	88.6	15.00	
12	19/06/2006	110	73.2	88.6	15.40	
13	19/06/2006	120	72.7	88.6	15.90	
14	19/06/2006	130	72.3	88.6	16.30	
15	19/06/2006	140	72	88.6	16.60	
16	19/06/2006	150	71.6	88.6	17.00	
17	19/06/2006	160	71.3	88.6	17.30	
18	19/06/2006	170	70.8	88.6	17.80	
19	19/06/2006	180	70.5	88.6	18.10	
20	19/06/2006	190	70.2	88.6	18.40	
21	19/06/2006	200	69.8	88.6	18.80	
22	19/06/2006	210	69.5	88.6	19.10	
23	19/06/2006	220	69.2	88.6	19.40	
24	19/06/2006	230	68.9	88.6	19.70	
25	19/06/2006	240	68.6	88.6	20.00	
26	19/06/2006	250	68.3	88.6	20.30	
27	19/06/2006	260	68	88.6	20.60	
28	19/06/2006	270	67.7	88.6	20.90	
29	19/06/2006	280	67.4	88.6	21.20	
30	19/06/2006	290	67.2	88.6	21.40	
31	19/06/2006	300	66.9	88.6	21.70	
32	19/06/2006	310	66.6	88.6	22.00	
33	19/06/2006	320	66.4	88.6	22.20	
34	19/06/2006	330	66.1	88.6	22.50	
35	19/06/2006	340	65.8	88.6	22.80	
36	19/06/2006	350	65.6	88.6	23.00	
37	19/06/2006	360	65.3	88.6	23.30	
38	19/06/2006	370	65.1	88.6	23.50	
39	19/06/2006	380	64.8	88.6	23.80	
40	19/06/2006	390	64.6	88.6	24.00	

41	19/06/2006	400	64.4	88.6	24.20	
42	19/06/2006	410	64.1	88.6	24.50	
43	19/06/2006	420	63.9	88.6	24.70	
44	19/06/2006	430	63.6	88.6	25.00	
45	19/06/2006	440	63.4	88.6	25.20	
46	19/06/2006	450	63.2	88.6	25.40	
47	19/06/2006	460	63	88.6	25.60	
48	19/06/2006	470	62.7	88.6	25.90	
49	19/06/2006	480	62.5	88.6	26.10	
50	19/06/2006	490	62.3	88.6	26.30	
51	19/06/2006	500	62.1	88.6	26.50	
52	19/06/2006	510	61.9	88.6	26.70	
53	19/06/2006	520	61.7	88.6	26.90	
54	19/06/2006	530	61.5	88.6	27.10	
55	20/06/2006	540	61.3	88.6	27.30	
56	20/06/2006	550	61.1	88.6	27.50	
57	20/06/2006	560	60.9	88.6	27.70	
58	20/06/2006	570	60.7	88.6	27.90	
59	20/06/2006	580	60.5	88.6	28.10	
60	20/06/2006	590	60.3	88.6	28.30	
61	20/06/2006	600	60.1	88.6	28.50	
62	20/06/2006	610	59.9	88.6	28.70	
63	20/06/2006	620	59.7	88.6	28.90	
64	20/06/2006	630	59.5	88.6	29.10	
65	20/06/2006	640	59.4	88.6	29.20	
66	20/06/2006	650	59.2	88.6	29.40	
67	20/06/2006	660	59	88.6	29.60	
68	20/06/2006	670	58.8	88.6	29.80	
69	20/06/2006	680	58.7	88.6	29.90	
70	20/06/2006	690	58.5	88.6	30.10	
71	20/06/2006	700	58.3	88.6	30.30	
72	20/06/2006	710	58.2	88.6	30.40	
73	20/06/2006	720	58	88.6	30.60	
74	20/06/2006	730	57.8	88.6	30.80	
75	20/06/2006	740	57.7	88.6	30.90	
76	20/06/2006	750	57.6	88.6	31.00	
77	20/06/2006	760	57.4	88.6	31.20	Pump stopped
78	20/06/2006	770	60.3	88.6	28.30	
79	20/06/2006	780	61.7	88.6	26.90	
80	20/06/2006	790	62.6	88.6	26.00	30
81	20/06/2006	800	63.2	88.6	25.40	
82	20/06/2006	810	63.8	88.6	24.80	
83	20/06/2006	820	64.3	88.6	24.30	60
84	20/06/2006	830	64.7	88.6	23.90	
85	20/06/2006	840	65.1	88.6	23.50	
86	20/06/2006	850	65.5	88.6	23.10	90
87	20/06/2006	860	65.8	88.6	22.80	
88	20/06/2006	870	66.1	88.6	22.50	
89	20/06/2006	880	66.4	88.6	22.20	120
90	20/06/2006	890	66.7	88.6	21.90	
91	20/06/2006	900	66.9	88.6	21.70	

92	20/06/2006	910	67.2	88.6	21.40	150
93	20/06/2006	920	67.4	88.6	21.20	
94	20/06/2006	930	67.7	88.6	20.90	
95	20/06/2006	940	67.9	88.6	20.70	180
96	20/06/2006	950	68.1	88.6	20.50	
97	20/06/2006	960	68.3	88.6	20.30	
98	20/06/2006	970	68.5	88.6	20.10	210
99	20/06/2006	980	68.7	88.6	19.90	
100	20/06/2006	990	68.9	88.6	19.70	
101	20/06/2006	1000	69.1	88.6	19.50	240
102	20/06/2006	1010	69.2	88.6	19.40	
103	20/06/2006	1020	69.4	88.6	19.20	
104	20/06/2006	1030	69.6	88.6	19.00	270
105	20/06/2006	1040	69.7	88.6	18.90	
106	20/06/2006	1050	69.9	88.6	18.70	
107	20/06/2006	1060	70	88.6	18.60	300
108	20/06/2006	1070	70.2	88.6	18.40	
109	20/06/2006	1080	70.3	88.6	18.30	
110	20/06/2006	1090	70.5	88.6	18.10	330
111	20/06/2006	1100	70.6	88.6	18.00	
112	20/06/2006	1110	70.7	88.6	17.90	
113	20/06/2006	1120	70.9	88.6	17.70	360
114	20/06/2006	1130	71	88.6	17.60	
115	20/06/2006	1140	71.1	88.6	17.50	
116	20/06/2006	1150	71.3	88.6	17.30	
117	20/06/2006	1160	71.4	88.6	17.20	
118	20/06/2006	1170	71.5	88.6	17.10	
119	20/06/2006	1180	71.6	88.6	17.00	420
120	20/06/2006	1190	71.7	88.6	16.90	
121	20/06/2006	1200	71.9	88.6	16.70	
122	20/06/2006	1210	72	88.6	16.60	
123	20/06/2006	1220	72.1	88.6	16.50	
124	20/06/2006	1230	72.2	88.6	16.40	
125	20/06/2006	1240	72.3	88.6	16.30	480
126	20/06/2006	1250	72.4	88.6	16.20	
127	20/06/2006	1260	72.5	88.6	16.10	
128	20/06/2006	1270	72.6	88.6	16.00	
129	20/06/2006	1280	72.5	88.6	16.10	
130	20/06/2006	1290	72.7	88.6	15.90	
131	20/06/2006	1300	72.9	88.6	15.70	540
132	20/06/2006	1310	73	88.6	15.60	
133	20/06/2006	1320	73.1	88.6	15.50	
134	20/06/2006	1330	73.2	88.6	15.40	
135	20/06/2006	1340	73.3	88.6	15.30	
136	20/06/2006	1350	73.4	88.6	15.20	
137	20/06/2006	1360	73.5	88.6	15.10	600
138	20/06/2006	1370	73.6	88.6	15.00	
139	20/06/2006	1380	73.7	88.6	14.90	
140	20/06/2006	1390	73.7	88.6	14.90	
141	20/06/2006	1400	73.8	88.6	14.80	
142	20/06/2006	1410	73.9	88.6	14.70	

143	20/06/2006	1420	74	88.6	14.60	660
144	20/06/2006	1430	74.1	88.6	14.50	
145	20/06/2006	1440	74.1	88.6	14.50	
146	20/06/2006	1450	74.2	88.6	14.40	
147	20/06/2006	1460	74.3	88.6	14.30	
148	20/06/2006	1470	74.4	88.6	14.20	
149	20/06/2006	1480	74.4	88.6	14.20	720
150	20/06/2006	1490	74.5	88.6	14.10	
151	20/06/2006	1500	74.6	88.6	14.00	
152	20/06/2006	1510	74.7	88.6	13.90	
153	20/06/2006	1520	74.7	88.6	13.90	
154	20/06/2006	1530	74.8	88.6	13.80	
155	20/06/2006	1540	74.9	88.6	13.70	780
156	20/06/2006	1550	74.9	88.6	13.70	
157	20/06/2006	1560	75	88.6	13.60	
158	20/06/2006	1570	75.1	88.6	13.50	
159	20/06/2006	1580	75.2	88.6	13.40	
160	20/06/2006	1590	75.2	88.6	13.40	
161	20/06/2006	1600	75.3	88.6	13.30	840
162	20/06/2006	1610	75.3	88.6	13.30	
163	20/06/2006	1620	75.4	88.6	13.20	
164	20/06/2006	1630	75.5	88.6	13.10	
165	20/06/2006	1640	75.5	88.6	13.10	
166	20/06/2006	1650	75.6	88.6	13.00	
167	20/06/2006	1660	75.7	88.6	12.90	900
168	20/06/2006	1670	75.7	88.6	12.90	
169	20/06/2006	1680	75.8	88.6	12.80	
170	20/06/2006	1690	75.8	88.6	12.80	
171	20/06/2006	1700	75.9	88.6	12.70	
172	20/06/2006	1710	75.9	88.6	12.70	
173	20/06/2006	1720	76	88.6	12.60	960
174	20/06/2006	1730	76	88.6	12.60	
175	20/06/2006	1740	76.1	88.6	12.50	
176	20/06/2006	1750	76.2	88.6	12.40	
177	20/06/2006	1760	76.2	88.6	12.40	
178	20/06/2006	1770	76.3	88.6	12.30	
179	20/06/2006	1780	76.3	88.6	12.30	1020
180	20/06/2006	1790	76.4	88.6	12.20	
181	20/06/2006	1800	76.4	88.6	12.20	
182	20/06/2006	1810	76.5	88.6	12.10	
183	20/06/2006	1820	76.5	88.6	12.10	
184	20/06/2006	1830	76.6	88.6	12.00	
185	20/06/2006	1840	76.6	88.6	12.00	1080
186	20/06/2006	1850	76.7	88.6	11.90	
187	20/06/2006	1860	76.7	88.6	11.90	
188	20/06/2006	1870	76.8	88.6	11.80	
189	20/06/2006	1880	76.8	88.6	11.80	
190	20/06/2006	1890	76.9	88.6	11.70	
191	20/06/2006	1900	76.9	88.6	11.70	1140
192	20/06/2006	1910	77	88.6	11.60	
193	20/06/2006	1920	77	88.6	11.60	

194	20/06/2006	1930	77.1	88.6	11.50	
195	20/06/2006	1940	77.1	88.6	11.50	
196	20/06/2006	1950	77.2	88.6	11.40	
197	20/06/2006	1960	77.2	88.6	11.40	1200
198	20/06/2006	1970	77.3	88.6	11.30	
199	21/06/2006	1980	77.3	88.6	11.30	
200	21/06/2006	1990	77.3	88.6	11.30	
201	21/06/2006	2000	77.4	88.6	11.20	
202	21/06/2006	2010	77.4	88.6	11.20	
203	21/06/2006	2020	77.5	88.6	11.10	1260
204	21/06/2006	2030	77.5	88.6	11.10	
205	21/06/2006	2040	77.6	88.6	11.00	
206	21/06/2006	2050	77.6	88.6	11.00	
207	21/06/2006	2060	77.6	88.6	11.00	
208	21/06/2006	2070	77.7	88.6	10.90	
209	21/06/2006	2080	77.7	88.6	10.90	1320
210	21/06/2006	2090	77.8	88.6	10.80	
211	21/06/2006	2100	77.8	88.6	10.80	
212	21/06/2006	2110	77.9	88.6	10.70	
213	21/06/2006	2120	77.9	88.6	10.70	
214	21/06/2006	2130	77.9	88.6	10.70	
215	21/06/2006	2140	78	88.6	10.60	1380
216	21/06/2006	2150	78	88.6	10.60	
217	21/06/2006	2160	78	88.6	10.60	
218	21/06/2006	2170	78.1	88.6	10.50	
219	21/06/2006	2180	78.1	88.6	10.50	
220	21/06/2006	2190	78.2	88.6	10.40	
221	21/06/2006	2200	78.2	88.6	10.40	1440
222	21/06/2006	2210	78.2	88.6	10.40	
223	21/06/2006	2220	78.3	88.6	10.30	
224	21/06/2006	2230	78.3	88.6	10.30	
225	21/06/2006	2240	78.3	88.6	10.30	
226	21/06/2006	2250	78.4	88.6	10.20	
227	21/06/2006	2260	78.4	88.6	10.20	1500
228	21/06/2006	2270	78.4	88.6	10.20	
229	21/06/2006	2280	78.5	88.6	10.10	
230	21/06/2006	2290	78.5	88.6	10.10	
231	21/06/2006	2300	78.5	88.6	10.10	
232	21/06/2006	2310	78.6	88.6	10.00	
233	21/06/2006	2320	78.6	88.6	10.00	1560
234	21/06/2006	2330	78.6	88.6	10.00	
235	21/06/2006	2340	78.7	88.6	9.90	
236	21/06/2006	2350	78.7	88.6	9.90	
237	21/06/2006	2360	78.7	88.6	9.90	
238	21/06/2006	2370	78.8	88.6	9.80	
239	21/06/2006	2380	78.8	88.6	9.80	1620
240	21/06/2006	2390	78.8	88.6	9.80	
241	21/06/2006	2400	78.8	88.6	9.80	
242	21/06/2006	2410	78.9	88.6	9.70	
243	21/06/2006	2420	78.9	88.6	9.70	
244	21/06/2006	2430	78.9	88.6	9.70	1670

ALBERTA ENVIRONMENTAL PROTECTION

COMPUTER GENERATED WATER WELL DRILLER'S REPORT FORM

WELL I.D. 339681

THIS DATA MAY NOT BE FULLY CHECKED; THE PROVINCE DISCLAIMS ALL RESPONSIBILITY FOR ITS ACCURACY:

CONTRACTOR:

NAME: AARON/INTERPROVINCIAL WATERWELL DRILLING

ADDRESS: Box 28, Site 9, R.R.1 DeWinton, Alberta T0L-0X0

LICENCE NO.: 0892 JOURNEYMAN NO.: VA4998

WELL OWNER:

NAME: BAYLY,VIC#6030

ADDRESS: SITE 14 R R 8 CALGARY P.O. Box 23

POSTAL CODE: T2J 2T9

WELL LOCATION: IC#:

¼ OR LSD	SEC	TWP	RGE	W. MER
NE	30	022	02	W5

LOCATION VERIFICATION METHOD: FIELD
LOCATION IN QUARTER:

LOT: BLOCK: PLAN:
WELL ELEV: Feet How obtain: SURVEY-AIR

FORMATION LOG DESCRIPTION:

Depth (Feet)	Lithology:
Ground to:	
2	Topsoil
16	Moist Clay
24	Sandy Till & Gravel
38	Brown Sandstone
62	Sandstone
64	Grey Hard Sandstone
68	Sandstone
70	Hard Shale
90	Water Bearing Sandstone
92	Hard Sandstone
100	Salt & Pepper Sandstone

DRILLING METHOD: ROTARY

TYPE OF WORK: NEW WELL

FLOWING WELL: **RATE:**
GAS PRESENT: No **OIL PRESENT:** No
DATE OF ABANDONMENT:
MATERIAL USED:
PROPOSED USE: DOMESTIC

WELL COMPLETION DATA:

WELL FINISH: CASING/PERFORATED LINER
TOTAL HOLE DEPTH: 100 Feet

CASING TYPE: STEEL
SIZE OD: 6.62 Inch WALL THICKNESS: 0.188 Inch
BOTTOM AT: 30 Feet
PERFORATED CASING/LINER:
TYPE: PLASTIC
SIZE OD: 5.00 Inch ID: Inch
WALL THICKNESS: 0.219 Inch
TOP AT: 29 Feet BOTTOM AT: 100 Feet
PERFORATED FROM: 80 Feet TO: 95 Feet
Feet TO: Feet
Feet TO: Feet
SIZE OF PERFORATIONS: 0.188 Inch X 8.000 Inch
HOW PERFORATED: SAW
SEAL TYPE: DRIVEN
INTERVAL TOP: 28 Feet TO: 30 Feet
GEOPHYSICAL LOG TAKEN:
RETAINED ON FILE:
SCREEN:
MATERIAL:
SIZE ID (CLEAR): Inch SLOT SIZE: Inch
INTERVAL TOP: Feet TO: Feet
Feet TO: Feet
INSTALLATION METHOD:
TOP FITTINGS:
BOTTOM FITTINGS:
PACK TYPE:
GRAIN SIZE: AMOUNT:

PITLESS ADAPTER TYPE:
DROP PIPE TYPE: LENGTH: Feet
DIAMETER: Inch
ADDITIONAL PUMP INFORMATION:

PRODUCTION TEST:
TEST DATE: May 23, 1906 START TIME: 15:00

Elapsed Time in Min:Sec	Depth to Water Level During Pumping (Feet)	Depth to Water Level During Recovery (Feet)
10:00	9.7	28.3
100:00	15.0	22.8
300:00	21.7	18.4
720:00	30.8	14.5
770:00	31.2	13.7
2430:00		9.7

WATER REMOVAL RATE DURING TEST: 6 Gal/Min
TEST DURATION: 13 Hours 33 Minutes
TESTING METHOD: PUMP
DEPTH OF PUMP/DRILL STEM: 90 Feet
WATER LEVEL AT END OF TEST: 31 Feet
NON-PUMPING (STATIC) WATER LEVEL: 74.0 FEET
TOTAL DRAWDOWN: 23 Feet

RECOMMENDED PUMPING RATE: 5 Gal/Min
RECOMMENDED PUMP INTAKE AT: 90 Feet
TYPE OF PUMP INSTALLED:
MODEL: H.P.:

DATE WORK STARTED: May 23, 1906

DATE WORK COMPLETED: May 23, 1906

COMMENTS: TDS 1100 IRON <.5 HARD 1 PUMP TST MONITORED BY DATA LOGGER Q20 INTERP BY GROUNDWATER EX.
(Maximum of 9 lines printed)

ADDITIONAL TEST AND/OR PUMP DATA:

CHEMISTRIES HELD: DOCUMENTS HELD: 1

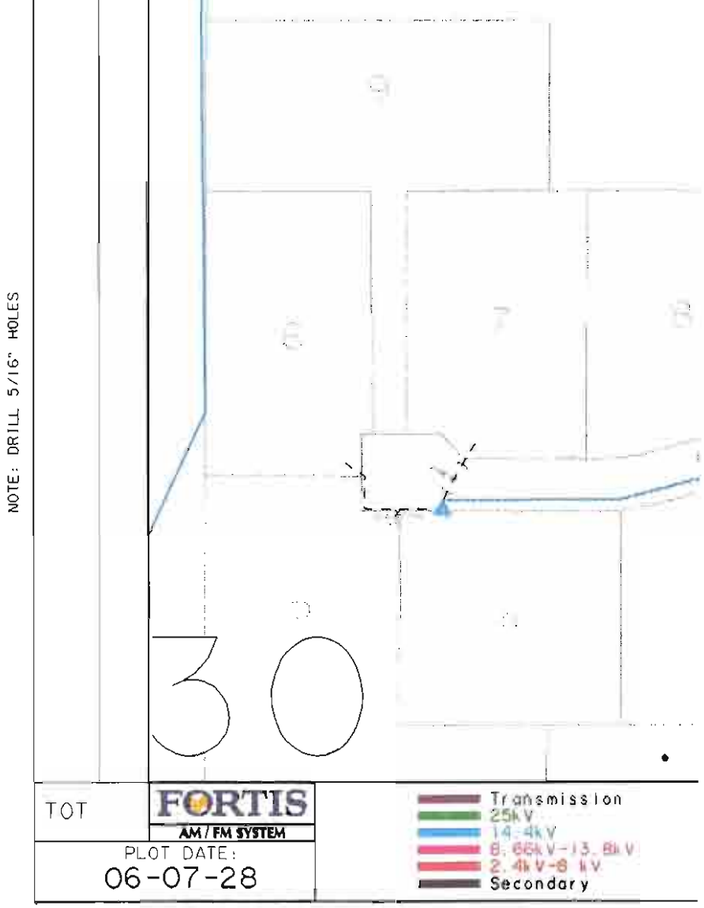
WELL OWNER'S ANTICIPATED WATER REQUIREMENTS PER DAY: 500 Gallons

DATE FORM PRINTED: July 10, 2006 14:34:54 **DATE DATA KEYED:** July 10, 2006 GIC5 DC

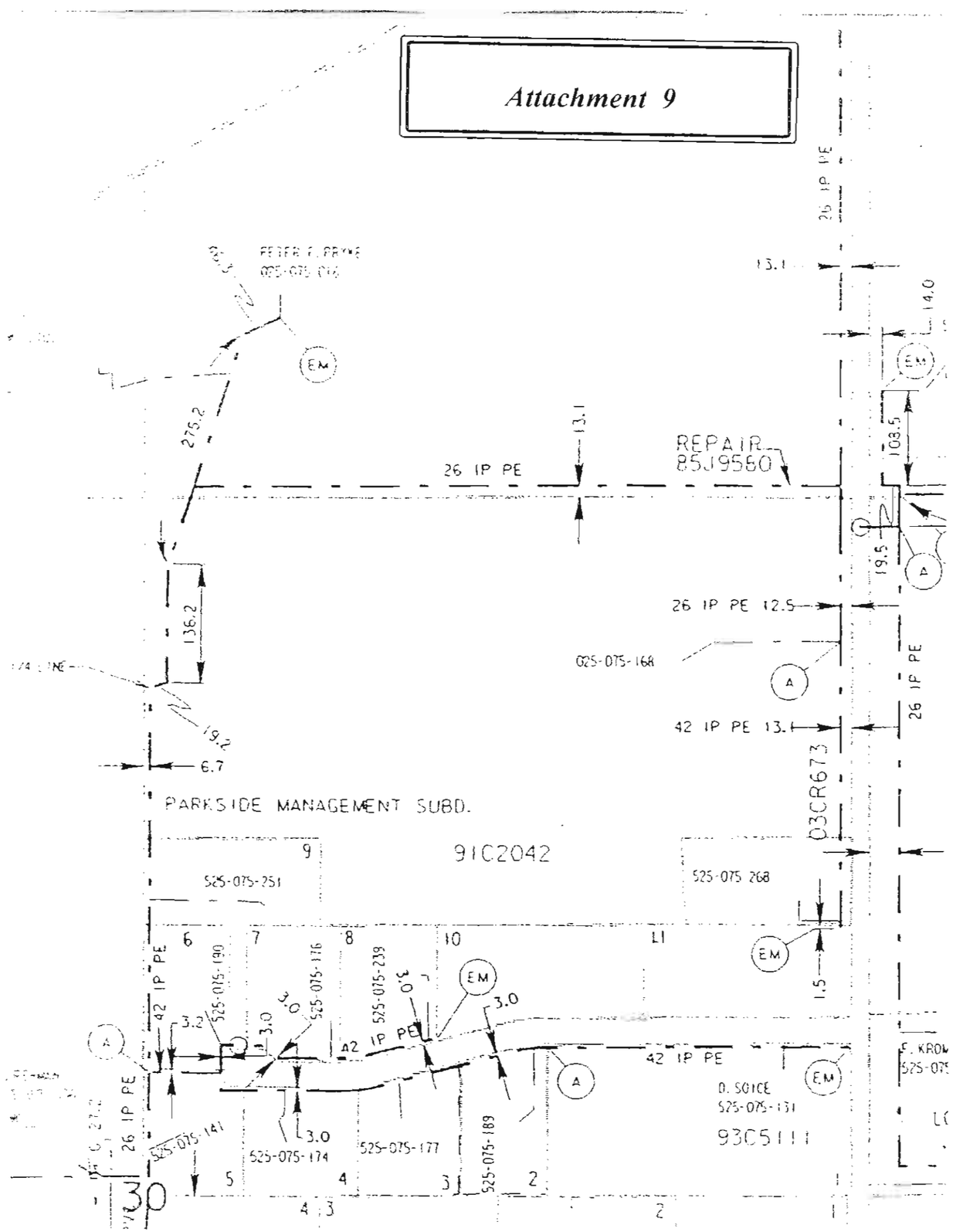
MAILING LIST

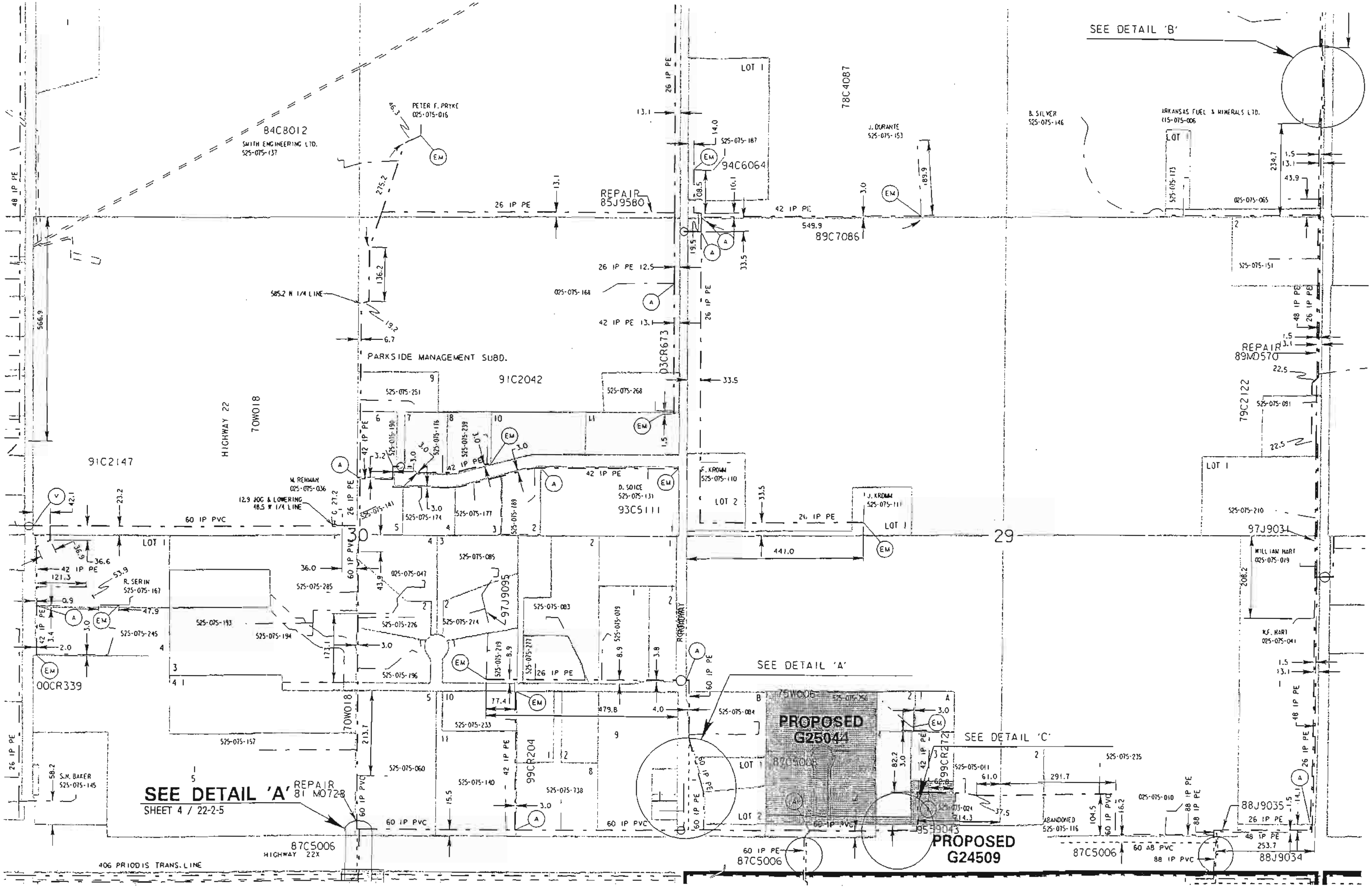
MAILING NO.	NO OF PRINTS

Attachment 8



Attachment 9





ATCO Gas Main Descriptor
323 M2 ST JT
└Joint Trenched
└Pipe Material
└Maximum Operating
└Size of Pipe in Millimet

219/323
└219 Inserted Into 323

NOTES

- ALL PIPE SIZES AND FITTINGS ARE IN MILLIMETRES UNLESS OTHERWISE
- ALL ALIGNMENTS AND DIMENSIONS IN METRES UNLESS OTHERWISE INC
- SERVICE LINES AS SHOWN ARE SC REPRESENTATION ONLY, AND DO N THE ACTUAL LOCATION OR LENGTH LINE.

DISCLAIMER

THE INFORMATION SHOWN ON THIS SH FROM RECORDS MAINTAINED BY ATCO NO WARRANTEE OR GUARANTEE IS GIV ACCURACY OR COMPLETENESS OF THOS OR OF THIS COMPILATION.

" DIAL BEFORE YOU DIG "
ALBERTA ONE-CALL 1-800-2

METRES
100 0 100 200 300

SECTION NUMBERING

SHEET N

ATCO G

SHEET 9
22-2-W5M

DATE PLOTTED: 01-JUL-2006 15

Attachment #10

Development Constraints

Lot owners shall not, landscape, change elevations, construct upon or interfere with any natural or manmade drainage courses as outlined in the Coyote Crossing ASP and as approved by the Municipality, See Exhibit #4A for specific detail.

Attachment 11

Phyllis

From: "Robert van der Kogel" <rvdkogel@platinum.ca>
To: "Phyllis Bayly" <baylyp@platinum.ca>
Sent: Tuesday, May 02, 2006 5:04 PM
Attach: New 070.jpg
Subject: Re: New Lot

Hi Vic and Phyllis,

We have no problem at all with your proposed plan, it sounds sound (why does that sound double?) and we whole heartedly agree with your future view on our surroundings. Go ahead.

By the way, have you changed your mind yet on the buck bushed piece behind us. We would leave it as is and never develop it, just clean up part of the dead wood (we do have a fire concern being surrounded by bushes with a lot of dead wood on three sides) and take care of all of the magpies.

Our main goal would be to do a little bit of cleaning up and get more nesting capability for birds and some limited natural access to show our kids and all the other kids what lives in our area if we don't turn it into manicured grass. It's a great area, I've attached a picture of a Blue Bird sitting on our deck railing.

Not pushing anybody, just like to increase our property and turn it into something worthwhile looking at from all sides. Whatever you decide, my first statement stands solid, go ahead with your plan, you've got our full support.

Apart from that, we should have you guys over for dinner in the next couple of weeks. I think it's been almost 3 years, let me know what your availability is.

Robert and MJ

----- Original Message -----
From: [illegible]
To: [illegible]
Sent: Tuesday, May 02, 2006 10:00 AM
Subject: New Lot

Dear Friends & Neighbors

I trust you are all in good health and enjoying the arrival of spring.

Phyllis and I have been talking with Jeff & Teresa Klotz about the possibility of creating a 5.3 acre parcel of land directly to the north of the bungalow on the southeast corner of our property. Jeff & Teresa and their two kids (Katie & Jared) have been renting for a year now and have decided this is where they would like to build a home and raise their kids.

I have spoken with our councilor Terry Waddock and a few of the Foothill's land planners and we collectively think it would be in the best interest of all parties that we develop a separate road to provide access to and from any future development. This would minimize the impact of increased traffic congestion. The road would be located on the north side of the site where the bungalow is located and may require a minor boundary adjustment.

Development is getting a little more complex these days and town council has suggested that I develop an Area Structure Plan (ASP) for the remaining quarter section which will give us all a bit of a roadmap for the future. An ASP is important for a number of reasons; I assume many of you get a little nervous when you receive a letter from the Bayly's suggesting further country residential development. An ASP forces me to address what complete development of the remaining quarter section will look like.

Let me share a few of my thoughts, first of all this is where we have lived for 15 years and we enjoy the community we all share. At 53 I am hoping to be right here for another 10 or 15 years so I have no interest in high-density residential development. The two (2) lots, which rounded out the development of the existing panhandle, were both in excess of 6 acres and any future parcels would be consistent in size and density. Secondly, the original homestead on about 50 to 60 acres is something I would like my children and grandchildren to enjoy. This would suggest a maximum of 4 to 5 lots on the remaining 28 acres.

I am contemplating making a 2-acre environmental reserve on the northwest corner of the quarter to preserve the wildlife corridor and the creek and ponds in that section of the property. I also like the buck brush as it provides a very natural buffer between each residence. The future ASP will reflect these values. >From a timing point of view I will be approaching council for one single 5.3 acre parcel of land over the next few weeks. I have no intention of developing the remaining land to the west for at least five (5) years, as further development would seriously impact my views to the west. Although the ASP forces me to map out the full development of the remaining quarter section the timing for implementation is well into the future.

Before I proceed with an application for subdivision we thought it best to ask our neighbors if they have any concerns or suggestions. I know you are all very busy but perhaps you could take a few minutes to respond to this E mail and let me know your thoughts on this matter. Phyllis and I would also welcome your phone calls or be happy to meet with you should you so desire.

We can be reached @ 931-3291 or [illegible], thank-you for your participation,

Vic & Phyllis

Phyllis

From: "Lockhart, Andy" <andy.lockhart@rbc.com>
To: <baylyp@platinum.ca>
Sent: Monday, July 31, 2006 10:26 AM
Subject: FW: New Lot

Vic:
I'm finally getting around to replying to this:
First, thanks for letting us know about your plans- it's appreciated.
I guess I come at this with the attitude that if our roles were reversed, I'd want to be able to deal with MY property as I saw fit, having said that, anything that can be done to minimize the effect of new acreages on our property would be appreciated.
In reading what you said below, it's hard to envision what the result will really be, so if you can let us know what's up as your planning goes along, that would be nice.

Second, (and somewhat related) I was on a fishing trip on Vancouver Island last week, and one of the guys I was with expressed some interest in land around our area- so I told him I'd put you two in touch with each other. His name is Tim Johnson, his direct line is 234-1134, and his e-mail is tjohnson@contemporary.ab.ca. Good luck.

Third, I have tried several times to bring your gas can back, but your gate always seems to be locked. If you let me know some time when I can get in, I'll return it, or alternatively if you're up our way it's sitting in the garage.

Regards
-----Original Message-----
From: Susan Lockhart [mailto:suelock@platinum.ca]
Sent: Tuesday, May 02, 2006 11:56 AM
To: Lockhart, Andy
Subject: Fwd: New Lot

Begin forwarded message:

From: "Phyllis Bayly" <baylyp@platinum.ca>
Date: May 2, 2006 10:00:14 AM MDT (CA)
To: "Annemarie Barwich" <amibar@platinum.ca>, "susan lockhart" <suelock@platinum.ca>, <Brenda.Hanson@atco.com>, "MJ/R VanderKogel" <rvdkogel@platinum.ca>, "jusjoken" <jusjoken@lincsat.com>, "Karen L. Annon" <kannon@direct.ca>
Subject: New Lot