

Appendix A



Water Well Drilling Report

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

GIC Well I.D. _____
 GoA Well Tag No. _____
 Date Report Received _____

Well Identification and Location

Owner Name: **CHLOE CARTWRIGHT** Address: **BOX 130** Town: **COCHRANE** Postal Code: **T4C 1A4**

Location 1/4 of LSD: **SE** SEC: **31** TWP: **28** RGE: **3** W of MER: **5** LOT: _____ Block: _____ Plan: _____ Additional Description: **#1 WELL**

Measured from Boundary of: Quarter Lot GPS Coordinates in Decimal Degrees (NAD 83)
 Latitude: **116.80001** Longitude: **57.01130** Elevation: **1217m**

m/ft from N S m/ft from E W Hand Held Auto 20-30m Diff. Corr. Hand Held 5-10m Surveyed GPS <1m

Drilling Information

Method of Drilling: Auger Backhoe/Dug Boring Cable Tool Rotary (air) Rotary (mud)

Type of Work: New Well (Producing) Test Hole or New Well (Dry) Plugged with: Bentonite Slurry Bentonite Chips Cement Other (Specify): _____

Proposed Well Use: Household (up to 1250 m³/yr with residences on property) Other (Specify): **LOGGE**

(Note: All wells, except household wells, must be licensed by Alberta Environment to divert and use groundwater)

Formation Log Measurements in: Metric Imperial

Depth from ground level	Indicate if Water Bearing	Lithology Description
19		TILL-BRN-CLAY
26		TILL-LR-CLAY
27		SILTST-BRN/LR
29		SS-BRN-F
30		SS-LR-F
32	✓	SS-BRN-F-SHATTERED
35		SS BRN-F

Well Completion Measurements in: Metric Imperial

Total Depth Drilled: _____ Finished Well Depth: **35'** Start Date: **10/10/28** End Date: **10/10/28**

Borehole: Diameter: **8"** From: **0** To: **26'**
 Diameter: **6"-5 1/2"** From: **26'** To: **35'**

Surface Casing: (if applicable) Steel Galvanized Steel PVC Fiberglass Cement Other _____

Well Casing/Liner: Steel Galvanized Steel PVC Fiberglass Other _____

Size OD: _____ Wall Thickness: **.214"**
 Top at: **7.81m** Bottom at: **35'**

Perforations: From: **30'** To: **35'**
 From: _____ To: _____
 Size: **3/8"** X **6"**
 Perforated by: Machine Saw Drill Other _____

Annular Seal: Bentonite Slurry Bentonite Chips Cement
 Placed From: **0** To: **28'**
 Amount: **150 LBS**

Drive Shoe, at: _____ Welded Ring, at: _____
 Shale Trap, at: **28'** Other, at: _____

Screen Type: Stainless Steel PVC
 Size OD: _____
 Interval From: _____ To: _____ Slot Size: _____
 Interval From: _____ To: _____ Slot Size: _____

Telescoped Attached to Casing
 Top Fittings: Packer Coupler Bottom Fittings: Wash-down Bail Plug

Pack: Artificial/Mechanical Natural Grain Size: _____ Amount: _____

Yield Test Measurements in: Metric Imperial Taken From: Top of Casing Ground Level

Test Date: **10/10/28** Start Time: _____ am/pm Distance From Top of Casing to Ground Level: _____ m/ft Static Water Level: **7.77** m

Artesian Flow Rate: _____ L/min or l/gpm Yes, flow control installed Describe: _____

Method of Water Removal: Pump Bailer Air
 Pumping Rate: _____ L/min / l/gpm Water Removal Rate: **30** L/min / l/gpm
 Depth Pumped From: _____ m/ft Depth Bailed From: _____ m/ft Depth Air Tested From: **28'** m/ft

If water removal period was <2 hours, explain why: _____

Recommended Pump Rate: **5** L/min or l/gpm Pump installed Yes No Depth: _____
 Recommended Pump Intake Depth (From TOC): **28'** Type: _____ Model: _____ H.P.: _____

Did you Encounter: Saline Water (>4000 ppm TDS) Depth: _____ m/ft Well Disinfected Upon Completion
 Gas Depth: _____ m/ft Geophysical Log Taken: Electric Gamma Other (Specify): _____

Remedial Action Taken: _____
 Sample Collected for Potability: Yes (Result Attached) No

Additional Comments on Well: _____

Water Diverted for Drilling

Water Source: _____ Amount Taken: _____ Diversion Date: _____ Time: _____ am/pm

Contractor Certification

Copy of Drilling Report Given to Owner

Name of Journeyman responsible for drilling/construction of well: **ROBY WALKER** Certification No: **14061Q**

Company Name: **WILD ROSE WATER WELLS**

I certify that this well was constructed in accordance with the Water (Ministerial) Regulation of the Water Act. All information in this record is true and describes the well and hydrogeologic conditions at the time of well completion only.

Date: **10/11/27**

Pumping	Depth to water level	
	Eapsed Time	Recovery
0		
1		8.05m
2		8.02
3		8.0
4		7.99
5		7.98
6		
7		
8		
9		
10		7.95
12		
14		
15		7.93
18		
20		
25		
30		
35		
40		
50		
60		
75		
90		
105		
120		



Water Well Drilling Report

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GIC Well I.D. _____
 GoA Well Tag No. _____
 Date Report Received _____

Well Identification and Location

Owner Name: **CHLOE CARTWRIGHT** Address: **BOX 130** Town: **COCHRANE** Postal Code: **T4C 1A4**
 Location: **SE 31 28 3 5** Additional Description: **#2 WELL**

Measured from Boundary of: Quarter Lot GPS Coordinates in Decimal Degrees (NAD 83)
 Latitude: **46.79927** Longitude: **57.0110** Elevation: **1216**
 Hand Held Auto 20-30m Diff. Corr. Hand Held 5-10m Surveyed GPS <1m

Drilling Information

Method of Drilling: Auger Backhoe/Dug Boring Cable Tool Rotary (air) Rotary (mud)
 Type of Work: New Well (Producing) Test Hole or New Well (Dry) Plugged with: Bentonite Slurry Bentonite Chips Cement Other (Specify):
 Amount Used: _____
 Deepened Well Reconstructed Well - Well ID (if applicable):
 Proposed Well Use: Household (up to 1250 m3/yr with residence on property) Other (Specify): **LODGE**
 (Note: All wells, except household wells, must be licensed by Alberta Environment to divert end use groundwater)

Formation Log

Depth from ground level	Indicate if Water Bearing	Lithology Description
21		TIL-BRN-CLAY
27		TIL-GR-CLAY
28		SILT ST. - GR BRN
31	✓	SS - BRN - F - SHATTERED
47	✓	SS - BRN - F - SILT ST STR
50		SILT - ST - GR
7" CAS DRIVEN FROM 26' - 31' PVC CASING WAS INSTALLED & 7" WAS REMOVED		

Well Completion

Measurements in: Metric Imperial
 Total Depth Drilled: **50'** Finished Well Depth: **47'** Start Date: **10/11/2** End Date: **10/11/3**
 Borehole: Diameter: **8"** From: **0** To: **26'**
 Diameter: **6.5 - 5.5"** From: **26'** To: **50'**
 Surface Casing: (if applicable) Steel Galvanized Steel PVC Fiberglass Cement Other
 Well Casing/Liner: Steel Galvanized Steel PVC Fiberglass Other: **12.5"**
 Size OD: **4.94"** Wall Thickness: **.214"**
 Top at: **±62m** Bottom at: **47'**
 Perforations: From: **35'** To: **45'**
 From: _____ To: _____
 Size: **2** X **6**
 Perforated by: Machine Drill Other
 Annular Seal: Bentonite Slurry Bentonite Chips Cement
 Placed From: **0** To: **30' 9.1**
 Amount: **150 LBS**
 Drive Shoe, at: _____ Welded Ring, at: _____
 Silt Trap, at: **30'** Other, at: _____
 Screen Type: Stainless Steel PVC
 Size OD: _____
 Interval From: _____ To: _____ Slot Size: _____
 Interval From: _____ To: _____ Slot Size: _____
 Telescoped Attached to Casing
 Top Fittings: Packer Coupler Bottom Fittings: Wash-down Ball Plug
 Pack: Artificial/Mechanical Natural Grain Size: _____ Amount: _____

Yield Test

Measurements in: Metric Imperial Taken From: Top of Casing Ground Level
 Test Date: **10/11/09** Start Time: _____ Distance From Top of Casing to Ground Level: **.62 m** Static Water Level: **7.60 m**
 Artesian Flow Rate: _____ L/min or gpm Yes, flow control installed Describe: _____
 Method of Water Removal: Pump Baller Air
 Pumping Rate: **15** L/min (gpm) Water Removal Rate: _____ L/min / gpm Water Removal Rate: **20** L/min (gpm)
 Depth Pumped From: **35'** Depth Bailed From: _____ m Depth Air Tested From: **35'** m
 If water removal period was <2 hours, explain why:
WELL WAS PUMPED WITH AIR PRIOR TO USUAL SUB. PUMP
 Recommended Pump Rate: **5-10** L/min (gpm) Pump installed Yes No Depth: _____
 Recommended Pump Intake Depth (From TOC): **35'** Type: _____ Model: _____ H.P.: _____
 Did you Encounter: Saline Water (>4000 ppm TDS) Depth: _____ m Well Disinfected Upon Completion
 Gas Depth: _____ m Geophysical Log Taken: Electric Gamma Other (Specify): _____
 Remedial Action Taken: _____ Sample Collected for Potability: Yes (Result Attached) No
 Additional Comments on Well: _____

Water Diverted for Drilling

Water Source: _____ Amount Taken: _____ Diversion Date: _____ Time: _____
 am/pm **9.92** **8.31**

Contractor Certification

Copy of Drilling Report Given to Owner
 Name of Journeyman responsible for drilling/construction of well: **KORY WALNER** Certification No: **140610**
 Company Name: **WILD ROSE WATER WELLS**

I certify that this well was constructed in accordance with the Water (Ministerial) Regulation of the Water Act. All information in this record is true and describes the works and hydrogeologic conditions at the time of well completion only.
 Date: **10/11/09**

Depth to water level	Elapsed Time	Recovery
	Pumping	
	Minutes	
	0	
	1	9.48
	2	9.26
	3	9.14
	4	9.05
	5	8.98
	6	
	7	9.27
	8	9.32
	9	9.37
	10	8.75
	12	
	14	
	16	
	18	
	20	8.47
	25	
	30	8.31
	35	
	40	8.20
	50	8.13
	60	8.06
	75	
	90	
	105	
	120	

Alberta Water Well Drilling Report

ENVIRONMENT

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GIC Well I.D. _____
GoA Well Tag No. _____
Date Report Received _____

Well Identification and Location

Owner Name: **CHLOE CARTWRIGHT** Address: **BOX 130** Town: **COCHRANE** Postal Code: **T4C 1A4**

Location: **SE** 1/4 of L.S.D. **31** SEC: **28** TWP: **3** RGE: **5** W of MER: _____ Lot: _____ Block: _____ Plan: _____ Additional Description: **#3 WELL**

Measured from Boundary of: Quarter Lot GPS Coordinates in Decimal Degrees (NAD 83)
Latitude: **116.29944** Longitude: **57.01162** Elevation: **1214**
 Hand Held Auto 20-30m Diff. Corr. Hand Held 5-10m Surveyed GPS <1m

Drilling Information

Method of Drilling: Auger Backhoe/Dug Boring Cable Tool Rotary (air) Rotary (mud)

Type of Work: New Well (Producing) Test Hole or New Well (Dry) Plugged with: Bentonite Slurry Bentonite Chips Cement Other (Specify): _____

Proposed Well Use: Household (up to 1250 m³/yr with residence on property) Other (Specify): **LONGE**

Amount Used: _____
 Deepened Well Reconstructed Well Well ID (if applicable): _____

(Note: All wells, except household wells, must be licensed by Alberta Environment to divert and use groundwater)

Formation Log

Depth from ground level	Indicates if Water Bearing	Lithology Description
15		TILL-BRN-CLAY
26		F.U.-GR-CLAY
31		SH-GR/BRN
76		SS-BRN-F
50		SS-LR/BR-F

Well Completion

Measurements in: Metric Imperial

Total Depth Drilled: **50'** Finished Well Depth: **48'** Start Date: **10/15** End Date: **10/15**

Borehole: Diameter: **8"** From: **0** To: **28'**
Diameter: **6 1/2"** From: **28'** To: **50'**

Surface Casing: (if applicable) Steel Galvanized Steel PVC Fiberglass Cement Other: _____

Well Casing/Liner: Steel Galvanized Steel PVC Fiberglass Other: _____

Size OD: **4.94"** Wall Thickness: **.214"**
Top at: **1.25m** Bottom at: **48'**

Perforations: From: **33'** To: **45'**
From: **5'** To: **6'**
Size: **5/8"** x **6"**
Perforated by: Machine Saw Drill Other: _____

Annular Seal: Bentonite Slurry Bentonite Chips Cement
Placed From: **0** To: **31'**
Amount: **150 LBS**

Drive Shoes, at: _____ Welded Ring, at: _____
 Shale Trap, at: **31'** Other, at: _____

Screen Type: Stainless Steel PVC
Size OD: _____
Interval From: _____ To: _____ Slot Size: _____
Interval From: _____ To: _____ Slot Size: _____
 Telescoped Attached to Casing
Top Fittings: Packer Coupler Bottom Fittings: Wash-down Ball Plug

Pack: Artificial/Mechanical Natural Grain Size: _____ Amount: _____

Yield Test

Measurements in: Metric Imperial Taken From: Top of Casing Ground Level

Test Date: **10/10/10** Start Time: _____ Distance From Top of Casing to Ground Level: **.75m** Static Water Level: **6.54m**

Artesian Flow Rate: _____ L/min or igpm Yes, flow control installed Describe: _____

Method of Water Removal: Pump Bailor Air
Pumping Rate: **15** L/min (igpm) Water Removal Rate: _____ U/min / igpm Water Removal Rate: _____ U/min / igpm
Depth Pumped From: **30** m Depth Bailed From: _____ m Depth Air Tested From: _____ m

If water removal period was <2 hours, explain why: **24 HOUR PUMP TEST WAS DONE**

Recommended Pump Rate: _____ L/min or igpm Pump Installed Yes No Depth: _____
Recommended Pump Intake Depth (From TOC): _____ m Type: _____ Model: _____ H.P.: _____

Did you Encounter: Saline Water (>4000 ppm TDS) Depth: _____ m Well Disinfected Upon Completion
 Gas Depth: _____ m Geophysical Log Taken: Electric Gamma Other (Specify): _____

Remedial Action Taken: _____ Sample Collected for Potability: Yes (Result Attached) No

Additional Comments on Well: _____

Water Diverted for Drilling: Water Source: _____ Amount Taken: _____ Diversion Date: _____ Time: _____ am/pm

Contractor Certification

Copy of Drilling Report Given to Owner

Name of Journeyman responsible for drilling/construction of well: **ROCK WARNER** Certification No: **140612**

Company Name: **WILD ROSE WATER WELLS**

I certify that this well was constructed in accordance with the Water (Drinking) Regulation of the Water Act. All information in this record is true and describes the works and geologic conditions at the time of well completion only.

Depth to water level	Elapsed Time	Recovery
Pumping	Minutes	
	0	
	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	12	
	14	
	16	
	18	
	20	
	25	
	30	
	35	
	40	
	50	
	60	
	75	
	90	
	105	



Water Well Drilling Report

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GIC Well I.D.
GoA Well Tag No.
Date Report Received

Well Identification and Location

Owner Name: **CHLOE CARTURIAAT** Address: **BOX 130** Town: **COCHRANE** Postal Code: **T4C 1A4**

Location: 1/4 of L.S.D.: **SE** SEC: **31** TWP: **28** RGE: **3** W of MER: **5** Lot: _____ Block: _____ Plan: _____ Additional Description: _____

Measured from Boundary of: Quarter Lot

GPS Coordinates in Decimal Degrees (NAD 83)
 Latitude: _____ Longitude: _____ Elevation: _____
 m/ft from N S E W Hand Held Auto 20-30m Diff. Corr. Hand Held 5-10m Surveyed GPS <1m

Drilling Information

Method of Drilling:
 Auger
 Backhoe/Dug
 Boring
 Cable Tool
 Rotary (air)
 Rotary (mud)

Type of Work:
 New Well (Producing)
 Test Hole or New Well (Dry) Plugged: **10 11 5**
 Plugged with: Bentonite Slurry Bentonite Chips Cement
 Other (Specify): **CUTTINGS**

Proposed Well Use:
 Household (up to 1250 m³/yr with residence on property)
 Other (Specify): **LOGGE**

Amount Used: _____
 Deepened Well - Well ID (if applicable): _____
 Reconstructed Well

(Note: All wells, except household wells, must be licensed by Alberta Environment to divert and use groundwater)

Formation Log

Depth from ground level	Indicate if Water Bearing	Lithology Description	Total Depth Drilled:	Finished Well Depth:	Start Date	End Date
18		TILL-BRN-CLAY				
27		TILL-GR-CLAY-SILT/SH mix				
60		SH-GR/BRN-SILT STR				

Well Completion Measurements in: Metric Imperial

Corcholo:
 Diameter: _____ From: _____ To: _____
 Diameter: _____ From: _____ To: _____

Surface Casing: (if applicable)
 Steel Galvanized Steel PVC Fiberglass Cement Other
 Size OD: _____ Wall Thickness: _____
 Top at: _____ Bottom at: _____
 Perforations: From: _____ To: _____
 From: _____ To: _____
 Size: _____ X _____
 Perforated by: Machine Saw Drill Other

Annular Seal: Bentonite Slurry Bentonite Chips Cement
 Placed From: _____ To _____
 Amount: _____
 Drive Shoe, at: _____ Welded Ring, at: _____
 Shale Trap, at: _____ Other, at: _____

Screen Type: Stainless Steel PVC
 Size OD: _____
 Interval From: _____ To: _____ Slot Size: _____
 Interval From: _____ To: _____ Slot Size: _____
 Telescoped Attached to Casing
 Top Fittings: Packer Coupler Bottom Fittings: Wash-down Ball Plug

Pack: Artificial/Mechanical Natural Grain Size: _____ Amount: _____

Yield Test

Measurements in: Metric Imperial Taken From: Top of Casing Ground Level

Test Date: _____ Start Time: _____ am/pm Distance From Top of Casing to Ground Level: _____ m/ft Static Water Level: _____ m/ft

Artesian Flow Rate: _____ L/min or l/gpm Yes, flow control installed Describe: _____

Method of Water Removal:
 Pump Pumping Rate: _____ L/min / l/gpm Bailor Water Removal Rate: _____ L/min / l/gpm Air Water Removal Rate: _____ L/min / l/gpm
 Depth Pumped From: _____ m/ft Depth Bailed From: _____ m/ft Depth Air Tested From: _____ m/ft

If water removal period was <2 hours, explain why: _____

Recommended Pump Rate: _____ L/min or l/gpm Pump installed Yes Depth: _____
 Recommended Pump Intake Depth (From TOC): _____ m/ft Type: _____ Model: _____ H.P.: _____

Did you Encounter: Saline Water (>4000 ppm TDS) Depth: _____ m/ft Well Disinfected Upon Completion
 Gas Depth: _____ m/ft Electric Gamma
 Remedial Action Taken: _____ Other (Specify): _____
 Sample Collected for Potability: Yes (Result Attached) No

Additional Comments on Well: _____

Water Diverted for Drilling

Water Source: _____ Amount Taken: _____ Diversion Date: _____ Time: _____ am/pm

Contractor Certification

Copy of Drilling Report Given to Owner

Name of Journeyman responsible for drilling/construction of well: **RORY WAGNER** Certification No: **14061Q**

Company Name: **WILD ROSE WATER WELLS**

I certify that this well was constructed in accordance with the Water (Ministerial) Regulation of the Water Act. All information in this record is true and describes the works and hydrogeologic conditions at the time of well completion only.

Approval Holder Signature: _____ Date: **10 11 10**

Depth to water level	Elapsed Time	
	Pumping	Recovery
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
12		
14		
16		
18		
20		
25		
30		
35		
40		
50		
60		
75		
90		
105		
120		



Water Well Drilling Report

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

Well I.D.: 2023705
Map Verified: Not Verified
Date Report Received: 2009/05/04
Measurements: Imperial

1. Contractor & Well Owner Information

Company Name: WELL DONE WATER WELLS INC.
Drilling Company Approval No.: 205702
Mailing Address: RR 8
City or Town: CALGARY AB CA
Postal Code: T2J 2T9
Well Owner's Name: CARTWRIGHT, CHLOE
Well Location Identifier:
P.O. Box Number:
Mailing Address: RR 2
Postal Code: T0M 0S0
City: CROSSFIELD
Province: AB
Country: CA

2. Well Location

1/4 or Sec Twp Rge West of
LSD M
SE 31 028 03 5
Location in Quarter
FT from N Boundary
FT from E Boundary
Lot Block Plan

3. Drilling Information

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

6. Well Yield

Test Date (yyyy/mm/dd): Start Time:
2008/11/13 11:00 AM
Test Method: Pump
Non pumping static level: 252.7 FT
Rate of water removal: 4 Gallons/Min
Depth of pump intake: 405 FT
Water level at end of pumping: 350.4 FT
Distance from top of casing to ground level: 36 inches

4. Formation Log

Depth from ground level (feet)	Lithology Description
1	Topsoil
15	Brown Clay
18	Brown Shale
35	Gray Sandstone
149	Gray Shale
152	Gray Sandstone
178	Gray Shale
185	Gray Sandstone
195	Gray Shale
260	Lost Circulation
415	Gray Sandy Shale
420	Gray Shale

5. Well Completion

Date Started (yyyy/mm/dd): 2008/11/03
Date Completed (yyyy/mm/dd): 2008/11/10
Well Depth: 420 FT
Borehole Diameter: 8 inches
Casing Type: Steel
Liner Type: Plastic
Size OD: 6.625 inches
Size OD: 4.94 inches
Wall Thickness: 0.188 inches
Wall Thickness: 0.219 inches
Bottom at: 261 FT
Top: 250 FT Bottom: 420 FT
Perforations from: 270 FT to: 415 FT
Perforations Size: 0.094 inches x 10 inches
from: FT to: FT
Inches x inches
from: FT to: FT
Inches x inches
Perforated by: Saw
Seal: Driven & Bentonite
from: 2 FT to: 261 FT
Seal: Unknown
from: FT to: FT
Seal: Unknown
from: FT to: FT
Screen Type: Unknown
Screen ID: inches
from: FT to: FT
Slot Size: inches
Screen Type: Unknown
Screen ID: inches
from: FT to: FT
Slot Size: inches
Screen Installation Method: Unknown
Fittings
Top: Unknown Bottom: Unknown
Pack: Unknown
Grain Size: Amount: Unknown
Geophysical Log Taken:
Retained on Files:
Additional Test and/or Pump Data
Chemistries taken By Driller: No
Held: Documents Held:
Pitless Adapter Type:
Drop Pipe Type:
Length: FT Diameter: inches
Comments:
260' - 415' ALSO FRACTURES, BOREHOLE DIAMETER ALSO 6" FOR LINER

Depth To water level (feet)			
Drawdown	Minutes:Sec	Recovery	
252.7	0:00	350.4	
254.1	1:00	347.2	
256.6	2:00	344.6	
259.9	3:00	342.3	
261.9	4:00	340.6	
264.6	5:00	339.3	
266.4	6:00	338.1	
267.8	7:00	337.1	
269.6	8:00	336.4	
270.8	9:00	335.8	
272.2	10:00	334.9	
275.1	12:00	333.7	
277.8	14:00	332	
280.5	16:00	330.4	
285.9	20:00	327.3	
291.5	25:00	323.7	
296.7	30:00	320.3	
301.6	35:00	317.5	
305.9	40:00	314.7	
314.5	50:00	308.9	
321.1	60:00	302.4	
330.5	75:00	294.8	
338.5	90:00	288.4	
345.1	105:00	283.1	
350.4	120:00	278.3	

Total Drawdown: 97.7 FT
If water removal was less than 2 hr duration. reason why:

MEASUREMENTS FROM CASING

Recommended pumping rate: 3 Gallons/Min
Recommended pump intake: 400 FT

7. Contractor Certification

Driller's Name: TIM KLASSEN
Certification No.: 205734
This well was constructed in accordance with the Water Well regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.
Signature: _____ Yr Mo Day

Type Pump Installed
Pump Type:
Pump Model:
H.P.:
Any further pump test information? No

HAYBARN WELL

Appendix B

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

GIC Well ID 376846
 GoA Well Tag No.
 Date Report Received 1994/04/08

1. Well Identification and Location Measurement in Metric

Owner Name HELM, STEVE		Address GEN DEL, MADDEN		Town	Province	Postal Code T0M 1L0	
Location	1/4 or LSD 04	SEC 30	TWP 028	RGE 03	W of MER 5	Lot	Block
Measured from Boundary of			GPS Coordinates in Decimal Degrees (NAD 83)			Elevation _____ m	
_____ 274.32 m from South			Latitude <u>51.419200</u> Longitude <u>-114.420299</u>			How Elevation Obtained	
_____ 213.36 m from West			How Location Obtained			Not Obtained	
			Not Verified				

2. Drilling Information

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

3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
5.49		Sandy Clay
10.67		Shale
12.19		Sandstone
17.37		Shale
18.90		Sandstone
22.86		Shale & Sandstone Ledges

4. Well Completion Measurement in Metric

Total Depth Drilled 22.86 m	Finished Well Depth 0.00 m	Start Date 1994/03/14	End Date 1994/03/14
Borehole			
Diameter (cm) 0.00	From (m) 0.00	To (m) 22.86	
Surface Casing (if applicable) Steel		Well Casing/Liner Plastic	
Size OD : <u>14.12 cm</u>		Size OD : <u>11.43 cm</u>	
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.544 cm</u>	
Bottom at : <u>6.10 m</u>		Top at : <u>5.49 m</u>	
		Bottom at : <u>22.86 m</u>	
Perforations			
From (m) 16.76	To (m) 22.86	Diameter (cm) 0.635	Interval (cm) 30.48
Perforated by Saw			
Annular Seal Driven			
Placed from <u>0.00 m</u> to <u>6.10 m</u>			
Amount _____			
Other Seals			
Type		At (m)	
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount _____			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name DEN-ALTA DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 376846
 GoA Well Tag No.
 Date Report Received 1994/04/08

1. Well Identification and Location Measurement in Metric

Owner Name HELM, STEVE	Address GEN DEL, MADDEN	Town	Province	Postal Code T0M 1L0					
Location	1/4 or LSD 04	SEC 30	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ 274.32 m from South _____ _____ 213.36 m from West _____			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.419200</u> Longitude <u>-114.420299</u>			Elevation _____ m How Elevation Obtained Not Obtained			

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm		Is Flow Control Installed _____	
Is Artesian Flow _____ Rate _____ L/min		Describe _____	
Recommended Pump Rate _____	54.55 L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____	19.81 m	Type _____	Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____	
Gas _____	Depth _____ m	Geophysical Log Taken _____	
Additional Comments on Well _____		Submitted to GIC _____	
		Sample Collected for Potability _____ Result Attached _____	

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1994/03/14	Start Time 12:00 AM	Static Water Level 15.24 m	<i>Depth to water level</i>	
Method of Water Removal Type <u>Air</u>			Drawdown (m)	Elapsed Time Minutes:Sec
Removal Rate <u>90.92 L/min</u>				Recovery (m)
Depth Withdrawn From <u>22.86 m</u>				16.15
If water removal period was < 2 hours, explain why				15.54
				15.24

6. Water Diverted for Drilling

Water Source	Amount Taken	L	Diversions Date & Time
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7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name DEN-ALTA DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 392000
 GoA Well Tag No.
 Date Report Received 1981/05/06

1. Well Identification and Location Measurement in Metric

Owner Name DAVIES, JIM	Address P.O. BOX 673 COCHRANE	Town	Province	Postal Code					
Location	1/4 or LSD SW	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ m from		GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.417567</u>				Elevation <u>1219.20 m</u> How Elevation Obtained Estimated			
		How Location Obtained Map							

2. Drilling Information

Method of Drilling Cable Tool	Type of Work New Well	Proposed Well Use Domestic & Stock
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
0.91		Black Clay
6.10		Brown Clay
6.40		Boulders
7.01		Brown Firm Clay
9.14		Gray Firm Clay
12.19		Gray Hard Sandstone
13.41		Brown Fractured Sandstone
15.54		Brown Hard Sandstone
16.76		Gray Hard Sandstone
21.64		Gray Shale
24.69		Brown Shale
31.09		Gray Firm Shale
32.92	Yes	Water Bearing Sandstone
53.95		Gray Shale

4. Well Completion Measurement in Metric

Total Depth Drilled 53.95 m	Finished Well Depth 0.00 m	Start Date 1981/03/13	End Date 1981/03/24
Borehole			
Diameter (cm) 0.00	From (m) 0.00	To (m) 53.95	
Surface Casing (if applicable) Steel		Well Casing/Liner Galvanized Steel	
Size OD : <u>16.81 cm</u>		Size OD : <u>12.70 cm</u>	
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.000 cm</u>	
Bottom at : <u>9.14 m</u>		Top at : <u>0.00 m</u>	
Bottom at : <u>53.95 m</u>			
Perforations			
From (m) 29.87	To (m) 53.34	Diameter (cm) 0.953	Interval (cm) 40.64
Perforated by Torch			
Annular Seal Driven			
Placed from <u>0.00 m</u> to <u>9.14 m</u>			
Amount _____			
Other Seals			
Type		At (m)	
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount _____			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRILLING	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 392000
 GoA Well Tag No.
 Date Report Received 1981/05/06

1. Well Identification and Location Measurement in Metric

Owner Name DAVIES, JIM	Address P.O. BOX 673 COCHRANE	Town	Province	Postal Code					
Location	1/4 or LSD SW	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ m from			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.417567</u>			Elevation <u>1219.20 m</u> How Elevation Obtained Estimated			
			How Location Obtained Map						

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm	Is Artesian Flow _____	Is Flow Control Installed _____
Rate _____ L/min	Describe _____	
Recommended Pump Rate _____ 18.18 L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 0.00 m	Type _____	Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
Additional Comments on Well DRILLER REPORT ORIGINALLY IN TWP 38		Submitted to GIC _____
		Sample Collected for Potability _____ Result Attached <u>Yes</u>

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1981/03/24	Start Time 12:00 AM	Static Water Level 29.87 m	Depth to water level		
			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal					
Type <u>Bailer</u>					
Removal Rate <u>18.18 L/min</u>					
Depth Withdrawn From <u>52.43 m</u>					
If water removal period was < 2 hours, explain why					

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRILLING	Copy of Well report provided to owner _____ Date approval holder signed

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

GIC Well ID 2023705
GoA Well Tag No.
Date Report Received

1. Well Identification and Location										Measurement in Metric	
Owner Name CARTWRIGHT, CHLOE		Address RR 2			Town CROSSFIELD		Province AB		Postal Code T0M 0S0		
Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	SE	31	028	03	5						
Measured from Boundary of				GPS Coordinates in Decimal Degrees (NAD 83)				Elevation _____ m			
_____ m from				Latitude <u>51.434800</u> Longitude <u>-114.406000</u>				How Elevation Obtained			
_____ m from				How Location Obtained				Not Obtained			
				Not Verified							

2. Drilling Information		
Method of Drilling Rotary	Type of Work New Well	Proposed Well Use Other

3. Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
0.30		Topsoil	
4.57		Brown Clay	
5.49		Brown Shale	
10.67		Gray Sandstone	
45.42		Gray Shale	
46.33		Gray Sandstone	
54.25		Gray Shale	
56.39		Gray Sandstone	
59.44		Gray Shale	
79.25		Lost Circulation	
126.49		Gray Sandy Shale	
128.02		Gray Shale	

4. Well Completion				Measurement in Metric
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
128.02 m		2008/11/03	2008/11/10	
Borehole				
Diameter (cm)	From (m)	To (m)		
20.32	0.00	128.02		
Surface Casing (if applicable)		Well Casing/Liner		
Steel		Plastic		
Size OD : <u>16.83 cm</u>		Size OD : <u>12.55 cm</u>		
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.556 cm</u>		
Bottom at : <u>79.55 m</u>		Top at : <u>76.20 m</u>		
		Bottom at : <u>128.02 m</u>		
Perforations				
From (m)	To (m)	Diameter (cm)	Interval (cm)	
82.30	126.49	0.239	25.40	
Perforated by <u>Saw</u>				
Annular Seal Driven & Bentonite				
Placed from <u>0.61 m</u> to <u>79.55 m</u>				
Amount _____				
Other Seals				
Type		At (m)		
Screen Type				
Size OD : _____ cm				
From (m)	To (m)	Slot Size (cm)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
Pack				
Type <u>Unknown</u>		Grain Size _____		
Amount _____		<u>Unknown</u>		

7. Contractor Certification	
Name of Journeyman responsible for drilling/construction of well TIM KLAASSEN	Certification No 205734
Company Name WELL DONE WATER WELLS INC.	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 2023705
GoA Well Tag No.
Date Report Received

1. Well Identification and Location Measurement in Metric

Owner Name CARTWRIGHT, CHLOE	Address RR 2	Town CROSSFIELD	Province AB	Postal Code T0M 0S0					
Location	1/4 or LSD SE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434800</u> Longitude <u>-114.406000</u>			Elevation _____ m How Elevation Obtained Not Obtained			
			How Location Obtained Not Verified						

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ 91.44 cm	Is Artesian Flow _____	Is Flow Control Installed _____
Rate _____ L/min	Describe _____	
Recommended Pump Rate _____ 13.64 L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 121.92 m	Type _____	Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
Additional Comments on Well 260' - 415' ALSO FRACTURES, BOREHOLE DIAMTER ALSO 6" FOR LINER		Submitted to GIC _____
		Sample Collected for Potability _____ Result Attached _____

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 2008/11/13	Start Time 12:00 AM	Static Water Level 77.02 m																																																																															
Method of Water Removal Type <u>Pump</u>			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Drawdown (m)</th> <th>Elapsed Time Minutes:Sec</th> <th>Recovery (m)</th> </tr> </thead> <tbody> <tr><td>77.02</td><td>0:00</td><td>106.80</td></tr> <tr><td>77.45</td><td>1:00</td><td>105.83</td></tr> <tr><td>78.21</td><td>2:00</td><td>105.03</td></tr> <tr><td>79.22</td><td>3:00</td><td>104.33</td></tr> <tr><td>79.83</td><td>4:00</td><td>103.81</td></tr> <tr><td>80.65</td><td>5:00</td><td>103.42</td></tr> <tr><td>81.20</td><td>6:00</td><td>103.05</td></tr> <tr><td>81.63</td><td>7:00</td><td>102.75</td></tr> <tr><td>82.17</td><td>8:00</td><td>102.53</td></tr> <tr><td>82.54</td><td>9:00</td><td>102.35</td></tr> <tr><td>82.97</td><td>10:00</td><td>102.08</td></tr> <tr><td>83.85</td><td>12:00</td><td>101.71</td></tr> <tr><td>84.67</td><td>14:00</td><td>101.19</td></tr> <tr><td>85.50</td><td>16:00</td><td>100.71</td></tr> <tr><td>87.14</td><td>20:00</td><td>99.76</td></tr> <tr><td>88.85</td><td>25:00</td><td>98.66</td></tr> <tr><td>90.43</td><td>30:00</td><td>97.63</td></tr> <tr><td>91.93</td><td>35:00</td><td>96.77</td></tr> <tr><td>93.24</td><td>40:00</td><td>95.92</td></tr> <tr><td>95.86</td><td>50:00</td><td>94.15</td></tr> <tr><td>97.87</td><td>60:00</td><td>92.17</td></tr> <tr><td>100.74</td><td>75:00</td><td>89.86</td></tr> <tr><td>103.17</td><td>90:00</td><td>87.90</td></tr> <tr><td>105.19</td><td>105:00</td><td>86.29</td></tr> <tr><td>106.80</td><td>120:00</td><td>84.83</td></tr> </tbody> </table>	Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)	77.02	0:00	106.80	77.45	1:00	105.83	78.21	2:00	105.03	79.22	3:00	104.33	79.83	4:00	103.81	80.65	5:00	103.42	81.20	6:00	103.05	81.63	7:00	102.75	82.17	8:00	102.53	82.54	9:00	102.35	82.97	10:00	102.08	83.85	12:00	101.71	84.67	14:00	101.19	85.50	16:00	100.71	87.14	20:00	99.76	88.85	25:00	98.66	90.43	30:00	97.63	91.93	35:00	96.77	93.24	40:00	95.92	95.86	50:00	94.15	97.87	60:00	92.17	100.74	75:00	89.86	103.17	90:00	87.90	105.19	105:00	86.29	106.80	120:00	84.83
Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)																																																																															
77.02	0:00	106.80																																																																															
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90.43	30:00	97.63																																																																															
91.93	35:00	96.77																																																																															
93.24	40:00	95.92																																																																															
95.86	50:00	94.15																																																																															
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100.74	75:00	89.86																																																																															
103.17	90:00	87.90																																																																															
105.19	105:00	86.29																																																																															
106.80	120:00	84.83																																																																															
Removal Rate _____ 18.18 L/min																																																																																	
Depth Withdrawn From _____ 123.44 m																																																																																	
If water removal period was < 2 hours, explain why MEASUREMENTS FROM CASING																																																																																	

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well TIM KLAASSEN	Certification No 205734
Company Name WELL DONE WATER WELLS INC.	Copy of Well report provided to owner _____ Date approval holder signed _____

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

GIC Well ID 492979
 GoA Well Tag No.
 Date Report Received 1999/04/30

1. Well Identification and Location										Measurement in Metric	
<i>Owner Name</i> BOSCH, ROBERT		<i>Address</i> P.O. BOX 55 WATER VALLEY			<i>Town</i>		<i>Province</i>		<i>Postal Code</i> T0M 2E0		
<i>Location</i>	<i>1/4 or LSD</i> SE	<i>SEC</i> 30	<i>TWP</i> 028	<i>RGE</i> 03	<i>W of MER</i> 5	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
<i>Measured from Boundary of</i> _____ m from _____ _____ m from _____				<i>GPS Coordinates in Decimal Degrees (NAD 83)</i> Latitude <u>51.420350</u> Longitude <u>-114.406012</u>				<i>Elevation</i> _____ m <i>How Elevation Obtained</i> Not Obtained			
				<i>How Location Obtained</i> Not Verified							

2. Drilling Information		
<i>Method of Drilling</i> Combination	<i>Type of Work</i> New Well	<i>Proposed Well Use</i> Domestic

3. Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
3.05		Clay	
3.66		Sandstone	
4.88		Soft Shale	
14.63		Soft Shale & Sandstone	
15.24		Hard Shale	
15.85		Hard Sandstone	
17.07		Dark Shale	
20.73		Soft Shale	
23.77		Sandstone	
34.75		Soft Shale	
36.27		Sandstone	
40.54		Shale & Sandstone	
42.67		Hard Sandstone	
45.72		Soft Shale & Sandstone	

4. Well Completion				Measurement in Metric
<i>Total Depth Drilled</i>	<i>Finished Well Depth</i>	<i>Start Date</i>	<i>End Date</i>	
45.72 m		1998/10/15	1998/10/20	
Borehole				
Diameter (cm)		From (m)	To (m)	
0.00		0.00	45.72	
<i>Surface Casing (if applicable)</i>		<i>Well Casing/Liner</i>		
Steel		Plastic		
Size OD : <u>16.81 cm</u>		Size OD : <u>12.55 cm</u>		
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.630 cm</u>		
Bottom at : <u>9.75 m</u>		Top at : <u>7.01 m</u>		
		Bottom at : <u>45.72 m</u>		
Perforations				
From (m)	To (m)	Diameter (cm)	Interval (cm)	
33.53	45.72	0.157	25.40	
<i>Perforated by</i> Saw				
Annular Seal Driven				
<i>Placed from</i> <u>0.00 m</u> to <u>9.75 m</u>				
<i>Amount</i> _____				
<i>Other Seals</i>				
Type		At (m)		
Screen Type				
Size OD : <u>0.00 cm</u>				
From (m)	To (m)	Slot Size (cm)		
<i>Attachment</i> _____				
<i>Top Fittings</i> _____		<i>Bottom Fittings</i> _____		
Pack				
<i>Type</i> _____		<i>Grain Size</i> _____		
<i>Amount</i> _____				

7. Contractor Certification	
<i>Name of Journeyman responsible for drilling/construction of well</i> UNKNOWN NA DRILLER	<i>Certification No</i> 1
<i>Company Name</i> TAKS & SONS DRILLING LTD.	<i>Copy of Well report provided to owner</i> <i>Date approval holder signed</i>

Government of Alberta Water Well Drilling Report

[View in Imperial](#)

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

GIC Well ID 492979
GoA Well Tag No.
Date Report Received 1999/04/30

1. Well Identification and Location Measurement in Metric

Owner Name BOSCH, ROBERT		Address P.O. BOX 55 WATER VALLEY			Town	Province	Postal Code T0M 2E0		
Location	1/4 or LSD SE	SEC 30	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____				GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.420350</u> Longitude <u>-114.406012</u>			Elevation _____ m How Elevation Obtained Not Obtained		
				How Location Obtained Not Verified					

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm		Is Artesian Flow _____		Is Flow Control Installed _____	
Rate _____ L/min		Describe _____			
Recommended Pump Rate _____ 45.46 L/min		Pump Installed _____		Depth _____ m	
Recommended Pump Intake Depth (From TOC) _____ 44.20 m		Type _____		Model _____ H.P. _____	
Did you Encounter Saline Water (>4000 ppm TDS) _____		Depth _____ m		Well Disinfected Upon Completion _____	
Gas _____		Depth _____ m		Geophysical Log Taken _____	
Additional Comments on Well		Submitted to GIC _____			
DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 16".		Sample Collected for Potability _____		Result Attached _____	

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1998/11/13	Start Time 12:00 AM	Static Water Level 28.96 m	Depth to water level		
Method of Water Removal Type <u>Pump</u>			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Removal Rate _____ 37.73 L/min			29.10	0:00	35.84
Depth Withdrawn From _____ 43.59 m			30.70	1:00	34.82
If water removal period was < 2 hours, explain why			30.92	2:00	34.23
			31.01	3:00	33.81
			31.30	4:00	33.42
			31.62	5:00	33.16
			31.81	6:00	32.95
			32.05	7:00	32.75
			32.22	8:00	32.57
			32.49	10:00	32.34
			33.04	15:00	31.85
			33.40	20:00	31.56
			33.94	30:00	31.08
			34.34	40:00	30.82
			34.90	60:00	30.49
			35.20	75:00	
			35.50	90:00	
			35.89	120:00	

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name TAKS & SONS DRILLING LTD.	Copy of Well report provided to owner _____ Date approval holder signed _____



Stantec Consulting Ltd.
600 - 4808 Ross Street
Red Deer, AB T4N 1X5



Pumping Test Analysis Report

Project: Chinook Golf Course

Number: 149104750

Client: Cloe Cartwright

Location: SE-30-28-3-W.5

Pumping Test: Short driller's test

Pumping Well: Well 1

Test Conducted by: Taks & Sons Drilling Ltd.

Test Date: 4/30/1999

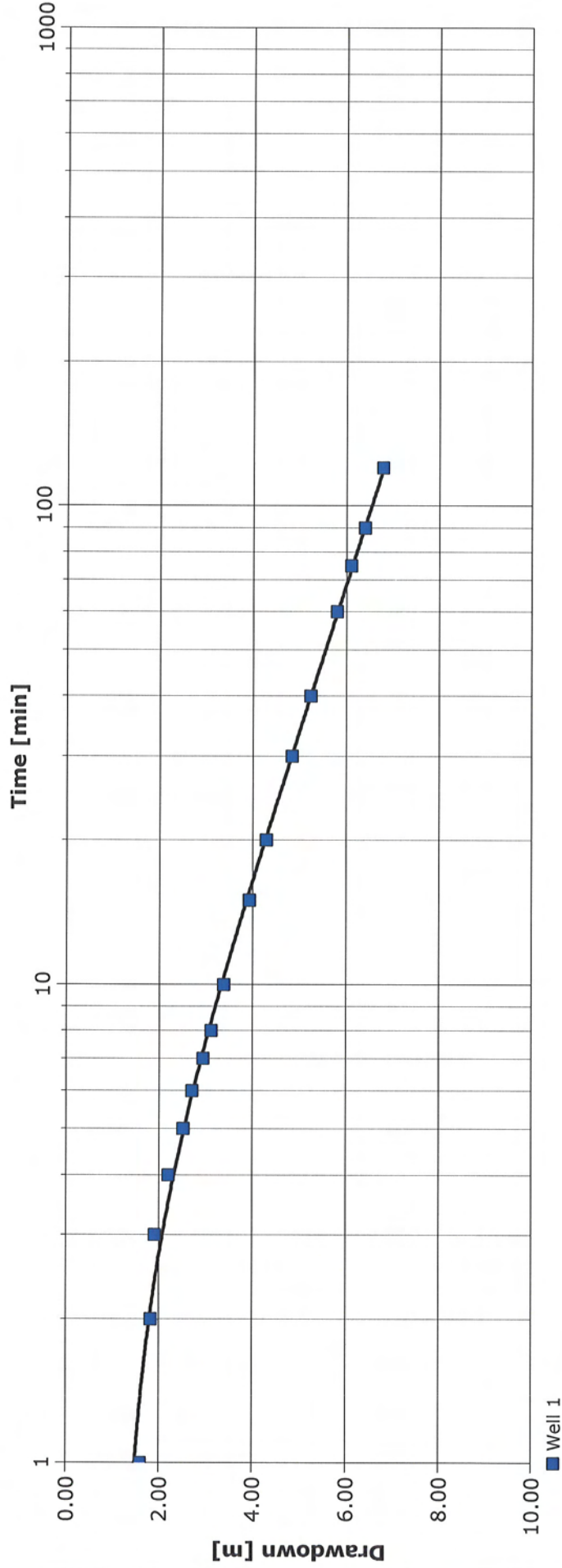
Analysis Performed by: Grant Nielsen

Analysis Date: 6/24/2010

Aquifer Thickness: 12.20 m

Short-term test

Discharge: variable, average rate 53.851 [m³/d]



Calculation after Double Porosity

Observation Well	Transmissivity [m ² /d]	Hydraulic Conductivity [m/d]	Specific storage	Sigma	Lambda	Radial Distance to PW [m]
Well 1	2.99×10^0	2.45×10^{-1}	7.82×10^{-5}	1.58×10^4	1.11×10^0	0.06



Stantec Consulting Ltd.
600 - 4808 Ross Street
Red Deer, AB T4N 1X5

Stantec

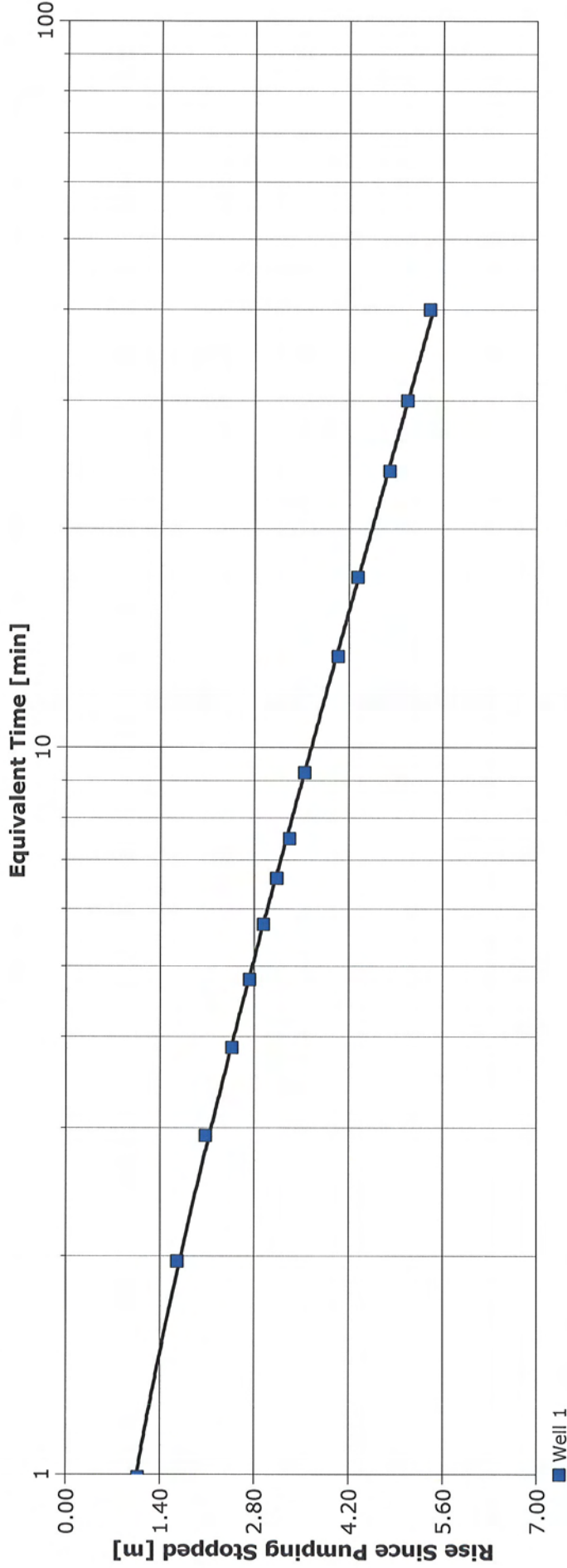
Pumping Test Analysis Report

Project: Chinook Golf Course

Number: 149104750

Client: Cloe Cartwright

Location: SE-30-28-3-W.5	Pumping Test: Short driller's test	Pumping Well: Well 1
Test Conducted by: Taks & Sons Drilling Ltd.	Short-term test	Test Date: 4/30/1999
Analysis Performed by: Grant Nielsen	Discharge: variable, average rate 53.851 [m ³ /d]	Analysis Date: 6/24/2010
Aquifer Thickness: 12.20 m		



Calculation after AGARWAL + Double Porosity

Observation Well	Transmissivity [m ² /d]	Hydraulic Conductivity [m/d]	Specific storage	Sigma	Lambda	Radial Distance to PW [m]
Well 1	3.25 × 10 ⁰	2.66 × 10 ⁻¹	6.79 × 10 ⁻⁵	1.26 × 10 ⁻⁴	8.79 × 10 ⁰	0.06

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

GIC Well ID 399551
 GoA Well Tag No.
 Date Report Received 1995/01/05

1. Well Identification and Location Measurement in Metric

Owner Name CARTWRIGHT, CHLOE		Address P.O. BOX 370 CREMONA		Town	Province	Postal Code T0M 0R0			
Location	1/4 or LSD SE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ m from				GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.405993</u>			Elevation _____ m		
				How Location Obtained Not Verified			How Elevation Obtained Not Obtained		

2. Drilling Information

Method of Drilling Cable Tool	Type of Work New Well	Proposed Well Use Domestic
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
0.61		Black Clay
2.13		Brown Gritty Clay
2.74		Brown Hard Sandstone
4.27		Brownish Gray Gritty Clay
4.88		Gray Hard Sandstone
5.49		Gray Firm Shale
6.40		Gray Hard Sandstone
8.23		Gray Hard Shale
9.14		Gray Hard Sandstone
10.06		Gray Hard Shale
10.97		Gray Hard Sandstone
12.19		Gray Hard Shale
13.41		Gray Hard Sandstone
16.76		Gray Hard Shale
17.37		Gray Hard Sandstone
18.59		Gray Firm Shale
21.03		Gray Hard Sandstone
21.64		Gray Firm Shale
23.16		Gray Hard Sandstone
28.65		Gray Hard Shale
29.57		Gray Hard Sandstone
34.75		Gray Hard Shale
37.80	Yes	Gray Water Bearing Sandstone
45.72		Hard Shale & Sandstone Ledges

4. Well Completion Measurement in Metric

Total Depth Drilled 45.72 m	Finished Well Depth	Start Date 1994/11/28	End Date 1994/12/13
Borehole			
Diameter (cm) 0.00	From (m) 0.00	To (m) 45.72	
Surface Casing (if applicable) Steel		Well Casing/Liner Plastic	
Size OD : <u>14.12 cm</u>		Size OD : <u>11.43 cm</u>	
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.673 cm</u>	
Bottom at : <u>4.57 m</u>		Top at : <u>3.05 m</u>	
Bottom at : <u>45.72 m</u>			
Perforations			
From (m) 28.65	To (m) 44.20	Diameter (cm) 0.953	Interval (cm) 40.64
Perforated by <u>Saw</u>			
Annular Seal Driven			
Placed from <u>0.00 m</u> to <u>4.27 m</u>			
Amount _____			
Other Seals			
Type		At (m)	
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount _____			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRILLING 1992	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 399551
 GoA Well Tag No.
 Date Report Received 1995/01/05

1. Well Identification and Location Measurement in Metric

Owner Name CARTWRIGHT, CHLOE		Address P.O. BOX 370 CREMONA		Town	Province	Postal Code T0M 0R0			
Location	1/4 or LSD SE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____				GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.405993</u>			Elevation _____ m		
				How Location Obtained Not Verified			How Elevation Obtained Not Obtained		

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm	Is Artesian Flow _____	Is Flow Control Installed _____
Rate _____ L/min	Describe _____	
Recommended Pump Rate _____ 0.00 L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 44.20 m	Type _____	Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
Additional Comments on Well	Submitted to GIC _____	Sample Collected for Potability _____ Result Attached _____

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1994/12/13	Start Time 12:00 AM	Static Water Level 28.65 m
Method of Water Removal Type <u>Bailer</u>		
Removal Rate <u>4.55 L/min</u>		
Depth Withdrawn From <u>0.00 m</u>		
<i>If water removal period was < 2 hours, explain why</i>		
	Drawdown (m)	Elapsed Time Minutes:Sec
	28.65	0:00
		1:00
		2:00
		3:00
		4:00
		5:00
		6:00
		7:00
		8:00
		9:00
		10:00
		12:00
		14:00
		16:00
		20:00
		25:00
		30:00
		35:00
		40:00
		50:00
		60:00
		75:00
		90:00
		105:00
		120:00
	43.89	43.59
	43.28	42.98
	42.67	42.37
	42.06	41.76
	41.15	41.45
	40.84	41.15
	40.54	40.84
	40.23	40.54
	39.93	40.23
	38.40	39.93
	37.49	38.40
	36.88	37.49
	36.58	36.88
	36.27	36.58
	35.97	36.27
	35.66	35.97
	35.36	35.66
	35.05	35.36
	34.75	35.05

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRILLING 1992	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 399552
 GoA Well Tag No.
 Date Report Received 1995/01/05

1. Well Identification and Location Measurement in Metric

Owner Name CARTWRIGHT, CHLOE		Address P.O. BOX 370 CREMONA		Town	Province	Postal Code T0M 0R0			
Location	1/4 or LSD SE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of			GPS Coordinates in Decimal Degrees (NAD 83)			Elevation _____ m			
_____ m from			Latitude <u>51.434730</u> Longitude <u>-114.405993</u>			How Elevation Obtained			
_____ m from			How Location Obtained			Not Obtained			
			Not Verified						

2. Drilling Information

Method of Drilling Cable Tool	Type of Work New Well	Proposed Well Use Domestic
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
0.61		Black Clay
3.05		Brown Hard Sandstone
4.27		Brown Gritty Clay
5.18		Gray Hard Shale
6.10		Gray Hard Sandstone
25.60		Gray Hard Shale & Sandstone Ledges
26.21		Gray Wapiti Sandstone
28.65		Gray Fine Grained Shale
35.36		Gray Hard Shale
37.80		Gray Coarse Grained Sandstone
40.54		Gray Fine Grained Shale
41.76		Gray Hard Sandstone
44.50		Gray Hard Shale
45.11		Gray Hard Sandstone
60.66		Gray Hard Shale
61.87		Light Gray Hard Sandstone
62.79		Gray Fine Grained Shale
64.62		Gray Hard Sandstone
66.14		Gray Firm Shale

4. Well Completion Measurement in Metric

Total Depth Drilled	Finished Well Depth	Start Date	End Date
66.14 m		1994/11/03	1994/12/14
Borehole			
Diameter (cm)	From (m)	To (m)	
0.00	0.00	66.14	
Surface Casing (if applicable)		Well Casing/Liner	
Steel		Plastic	
Size OD : <u>14.12 cm</u>		Size OD : <u>11.43 cm</u>	
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.673 cm</u>	
Bottom at : <u>5.18 m</u>		Top at : <u>3.66 m</u>	
		Bottom at : <u>66.14 m</u>	
Perforations			
From (m)	To (m)	Diameter (cm)	Interval (cm)
24.38	65.23	1.588	40.64
Perforated by <u>Saw</u>			
Annular Seal Driven			
Placed from <u>0.00 m</u> to <u>5.18 m</u>			
Amount _____			
Other Seals			
Type		At (m)	
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount _____			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRILLING 1992	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 399552
 GoA Well Tag No.
 Date Report Received 1995/01/05

1. Well Identification and Location Measurement in Metric

Owner Name CARTWRIGHT, CHLOE		Address P.O. BOX 370 CREMONA			Town	Province	Postal Code T0M 0R0		
Location	1/4 or LSD SE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____					GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.405993</u>			Elevation _____ m How Elevation Obtained Not Obtained	
					How Location Obtained Not Verified				

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm		Is Artesian Flow _____		Is Flow Control Installed _____	
Rate _____ L/min		Describe _____			
Recommended Pump Rate _____ 0.00 L/min		Pump Installed _____		Depth _____ m	
Recommended Pump Intake Depth (From TOC) _____ 64.01 m		Type _____		Model _____ H.P. _____	
Did you Encounter Saline Water (>4000 ppm TDS) _____		Depth _____ m		Well Disinfected Upon Completion _____	
Gas _____		Depth _____ m		Geophysical Log Taken _____	
		Submitted to GIC _____			
Additional Comments on Well		Sample Collected for Potability _____ Result Attached _____			

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1994/12/14	Start Time 7:12 AM	Static Water Level 24.38 m	Depth to water level	
Method of Water Removal Type <u>Bailer</u>			Drawdown (m)	Elapsed Time Minutes:Sec
Removal Rate _____ 3.00 L/min				Recovery (m)
Depth Withdrawn From _____ 0.00 m				
If water removal period was < 2 hours, explain why				
			24.38	0:00
				1:00
				2:00
				3:00
				4:00
				5:00
				6:00
				7:00
				8:00
				9:00
				10:00
				12:00
				14:00
				16:00
				20:00
				25:00
				30:00
				35:00
				40:00
				50:00
				60:00
				75:00
				90:00
				105:00
				120:00

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRILLING 1992	Copy of Well report provided to owner _____ Date approval holder signed _____

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

GIC Well ID 416470
 GoA Well Tag No.
 Date Report Received 1976/01/16

1. Well Identification and Location Measurement in Metric

Owner Name MCNEILL, TERRY	Address RR4, CALGARY	Town	Province	Postal Code					
Location	1/4 or LSD SE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.405993</u>			Elevation <u>1226.82 m</u> <i>How Elevation Obtained</i> Estimated			
			How Location Obtained Map						

2. Drilling Information

Method of Drilling Cable Tool	Type of Work New Well	Proposed Well Use Domestic & Stock
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
0.30		Topsoil
8.53		Brown Clay
14.02		Brown Shale
21.34		Gray Shale
23.16	Yes	Gray Water Bearing Sandstone
27.43		Gray Shale
42.67		Brown Shale
56.69		Gray Shale
57.91	Yes	Gray Water Bearing Sandstone
79.25		Gray Shale

4. Well Completion Measurement in Metric

Total Depth Drilled 79.25 m	Finished Well Depth	Start Date 1975/07/29	End Date
Borehole			
Diameter (cm) 0.00	From (m) 0.00	To (m) 79.25	
Surface Casing (if applicable) Steel		Well Casing/Liner Steel	
Size OD : <u>16.84 cm</u>		Size OD : <u>12.70 cm</u>	
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.000 cm</u>	
Bottom at : <u>9.14 m</u>		Top at : <u>0.00 m</u>	
Bottom at : <u>79.25 m</u>			
Perforations			
From (m) 19.81 54.86	To (m) 24.38 59.44	Diameter (cm) 1.270 0.000	Interval (cm) 30.48 0.00
Perforated by <u>Torch</u>			
Annular Seal Driven			
Placed from <u>0.00 m</u> to <u>9.14 m</u>			
Amount _____			
Other Seals			
Type _____	At (m) _____		
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
_____	_____	_____	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount _____			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name INTERPROVINCIAL DRILLING CONTRACTORS	Copy of Well report provided to owner Date approval holder signed

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GIC Well ID 416470
 GoA Well Tag No.
 Date Report Received 1976/01/16

1. Well Identification and Location Measurement in Metric

Owner Name MCNEILL, TERRY	Address RR4, CALGARY	Town	Province	Postal Code					
Location	1/4 or LSD SE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ m from			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.405993</u>			Elevation <u>1226.82 m</u> How Elevation Obtained Estimated			
			How Location Obtained Map						

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm	Is Artesian Flow _____	Is Flow Control Installed _____
Rate _____ L/min	Describe _____	
Recommended Pump Rate _____ 0.00 L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 73.15 m	Type _____	Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
Additional Comments on Well DRILLER REPORTS MEDIUM HARD WATER.	Submitted to GIC _____	Sample Collected for Potability _____ Result Attached _____

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1975/07/29	Start Time 12:00 AM	Static Water Level 24.38 m	<i>Depth to water level</i>		
			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal					
Type <u>Bailer</u>					
Removal Rate <u>11.37 L/min</u>					
Depth Withdrawn From <u>0.00 m</u>					
If water removal period was < 2 hours, explain why					

6. Water Diverted for Drilling

Water Source	Amount Taken L	Diversion Date & Time
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7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name INTERPROVINCIAL DRILLING CONTRACTORS	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 392001
 GoA Well Tag No.
 Date Report Received 1985/10/16

1. Well Identification and Location										Measurement in Metric	
Owner Name DAVIES, JIM		Address P.O. BOX 673 COCHRANE			Town		Province		Postal Code		
Location	1/4 or LSD SW	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description		
Measured from Boundary of				GPS Coordinates in Decimal Degrees (NAD 83)				Elevation _____ m			
_____ m from _____				Latitude <u>51.434730</u> Longitude <u>-114.417567</u>				How Elevation Obtained _____			
_____ m from _____				How Location Obtained _____				Not Obtained			
				Map							

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

3. Formation Log			Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description	
10.67		Clay & Rocks	
16.76		Shale & Sandstone	

4. Well Completion				Measurement in Metric
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
16.76 m		1985/09/17	1985/09/17	
Borehole				
Diameter (cm)		From (m)		To (m)
0.00		0.00		16.76
Surface Casing (if applicable)			Well Casing/Liner	
Steel			Plastic	
Size OD : <u>14.12 cm</u>			Size OD : <u>11.68 cm</u>	
Wall Thickness : <u>0.396 cm</u>			Wall Thickness : <u>0.635 cm</u>	
Bottom at : <u>6.10 m</u>			Top at : <u>0.00 m</u>	
			Bottom at : <u>16.76 m</u>	
Perforations				
From (m)		To (m)		Diameter (cm)
10.67		16.76		0.635
Interval (cm) 20.32				
Perforated by Machine				
Annular Seal Driven				
Placed from <u>6.10 m</u> to <u>0.00 m</u>				
Amount _____				
Other Seals				
Type			At (m)	
Screen Type				
Size OD : <u>0.00 cm</u>				
From (m)		To (m)		Slot Size (cm)
Attachment _____				
Top Fittings _____			Bottom Fittings _____	
Pack				
Type _____			Grain Size _____	
Amount _____				

7. Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name DEN-ALTA DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed

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GIC Well ID 392001
 GoA Well Tag No.
 Date Report Received 1985/10/16

1. Well Identification and Location Measurement in Metric

Owner Name DAVIES, JIM	Address P.O. BOX 673 COCHRANE	Town	Province	Postal Code					
Location	1/4 or LSD SW	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.417567</u>			Elevation _____ m How Elevation Obtained Not Obtained			

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm	Is Artesian Flow _____	Is Flow Control Installed _____
Rate _____ L/min	Describe _____	
Recommended Pump Rate _____ 0.00 L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 15.24 m	Type _____	Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
Additional Comments on Well _____	Submitted to GIC _____	Sample Collected for Potability _____ Result Attached _____

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1985/09/17	Start Time 12:00 AM	Static Water Level 12.19 m	<i>Depth to water level</i>		
			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal					
Type <u>Air</u>					
Removal Rate <u>90.92 L/min</u>					
Depth Withdrawn From <u>0.00 m</u>					
If water removal period was < 2 hours, explain why					

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name DEN-ALTA DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 392003
GoA Well Tag No.
Date Report Received

1. Well Identification and Location Measurement in Metric

Owner Name STONE, BARRY	Address DOGPOUND	Town	Province	Postal Code					
Location	1/4 or LSD NW	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ m from			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.441961</u> Longitude <u>-114.417570</u>			Elevation <u>1219.20 m</u> How Elevation Obtained Estimated			
			How Location Obtained Map						

2. Drilling Information

Method of Drilling Cable Tool	Type of Work New Well	Proposed Well Use Domestic
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
3.05		Yellow Clay
6.40		Gray Clay & Boulders
7.62		Hard Sandstone & Rocks
10.36		Gray Clay & Shale
11.28	Yes	Light Gray Water Bearing Sandstone
11.89		Dark Hard Sandstone
23.77	Yes	Gray Water Bearing Shale & Sandstone

4. Well Completion Measurement in Metric

Total Depth Drilled 23.77 m	Finished Well Depth	Start Date	End Date 1967/04/24
Borehole			
Diameter (cm) 0.00	From (m) 0.00	To (m) 23.77	
Surface Casing (if applicable) Steel		Well Casing/Liner Steel	
Size OD : <u>0.00 cm</u>		Size OD : <u>0.00 cm</u>	
Wall Thickness : <u>0.000 cm</u>		Wall Thickness : <u>0.000 cm</u>	
Bottom at : <u>10.97 m</u>		Top at : <u>9.75 m</u>	
Bottom at : <u>23.77 m</u>			
Perforations			
From (m) 11.28	To (m) 22.86	Diameter (cm) 0.000	Interval (cm) 0.00
Perforated by _____			
Annular Seal			
Placed from <u>0.00 m</u> to <u>0.00 m</u>			
Amount _____			
Other Seals			
Type	At (m)		
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount _____			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRLG	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 392003
GoA Well Tag No.
Date Report Received

1. Well Identification and Location Measurement in Metric

Owner Name STONE, BARRY	Address DOGPOUND	Town	Province	Postal Code					
Location	1/4 or LSD NW	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.441961</u> Longitude <u>-114.417570</u>			Elevation <u>1219.20</u> m How Elevation Obtained Estimated			
			How Location Obtained Map						

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm		Is Flow Control Installed _____	
Is Artesian Flow _____ Rate _____ L/min		Describe _____	
Recommended Pump Rate _____ 0.00 L/min	Pump Installed _____	Depth _____ m	
Recommended Pump Intake Depth (From TOC) _____ 0.00 m	Type _____	Model _____	H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____	
Gas _____	Depth _____ m	Geophysical Log Taken _____	
Additional Comments on Well _____		Submitted to GIC _____	
		Sample Collected for Potability _____ Result Attached _____	

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1967/04/24	Start Time 12:00 AM	Static Water Level 16.46 m	<i>Depth to water level</i>		
			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal					
Type <u>Bailer</u>					
Removal Rate <u>45.46</u> L/min					
Depth Withdrawn From <u>0.00</u> m					
If water removal period was < 2 hours, explain why					

6. Water Diverted for Drilling

Water Source	Amount Taken	L	Diversion Date & Time
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7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRLG	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 443049
 GoA Well Tag No.
 Date Report Received 1996/03/29

1. Well Identification and Location Measurement in Metric

Owner Name HOSKINS, DAN		Address RR2, CROSSFIELD		Town		Province		Postal Code T0M 0S0	
Location	1/4 or LSD NE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of				GPS Coordinates in Decimal Degrees (NAD 83)				Elevation _____ m	
_____ m from				Latitude <u>51.441961</u> Longitude <u>-114.405994</u>				How Elevation Obtained	
_____ m from				How Location Obtained				Not Obtained	
				Not Verified					

2. Drilling Information

Method of Drilling Cable Tool	Type of Work New Well	Proposed Well Use Domestic
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
1.52		Brown Clay & Rocks
2.13		Gray Firm Shale
3.05		Boulders
4.57		Brown Hard Sandstone
5.79		Brownish Gray Hard Sandstone
7.01		Gray Firm Sandstone
8.84		Gray Hard Sandstone
9.75		Gray Hard Shale
10.36		Gray Hard Sandstone
11.28		Gray Fine Grained Shale
12.19		Gray Hard Sandstone
13.11		Gray Hard Shale
14.63		Gray Firm Shale
15.24		Gray Hard Sandstone
16.15		Gray Hard Shale
16.76		Dark Gray Hard Sandstone
21.95		Gray Firm Shale
22.56		Gray Hard Shale
32.00		Gray Hard Sandstone
32.61		Gray Hard Shale
33.22		Gray Hard Sandstone
37.19		Gray Hard Shale
38.10		Gray Hard Sandstone

4. Well Completion Measurement in Metric

Total Depth Drilled 38.10 m	Finished Well Depth	Start Date 1995/11/13	End Date 1995/11/23
Borehole			
Diameter (cm) 0.00	From (m) 0.00	To (m) 38.10	
Surface Casing (if applicable) Steel		Well Casing/Liner Plastic	
Size OD : <u>14.12 cm</u>		Size OD : <u>11.43 cm</u>	
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.673 cm</u>	
Bottom at : <u>7.32 m</u>		Top at : <u>6.10 m</u>	
Bottom at : <u>38.10 m</u>			
Perforations			
From (m) 30.48	To (m) 36.58	Diameter (cm) 0.953	Interval (cm) 30.48
Perforated by <u>Saw</u>			
Annular Seal Driven			
Placed from <u>4.57 m</u> to <u>7.32 m</u>			
Amount _____			
Other Seals			
Type		At (m)	
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount _____			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRILLING 1992	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 443049
 GoA Well Tag No.
 Date Report Received 1996/03/29

1. Well Identification and Location Measurement in Metric

Owner Name HOSKINS, DAN		Address RR2, CROSSFIELD			Town	Province	Postal Code T0M 0S0		
Location	1/4 or LSD NE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of				GPS Coordinates in Decimal Degrees (NAD 83)			Elevation _____ m		
_____ m from _____				Latitude <u>51.441961</u> Longitude <u>-114.405994</u>			How Elevation Obtained		
_____ m from _____				How Location Obtained Not Verified			Not Obtained		

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm		Is Flow Control Installed _____	
Is Artesian Flow _____		Describe _____	
Rate _____ L/min			
Recommended Pump Rate	<u>45.46</u> L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC)	<u>36.58</u> m	Type _____	Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____		Depth _____ m	
Gas _____		Depth _____ m	
Well Disinfected Upon Completion _____		Geophysical Log Taken _____	
Submitted to GIC _____		Sample Collected for Potability _____ Result Attached _____	
Additional Comments on Well DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 2.5'			

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1995/11/23	Start Time 3:36 AM	Static Water Level 23.16 m	Depth to water level		
Method of Water Removal			Drawdown (m)	Elapsed Time Minutes:Sec	
Type <u>Bailer</u>				Recovery (m)	
Removal Rate <u>90.92</u> L/min					
Depth Withdrawn From <u>0.00</u> m					
If water removal period was < 2 hours, explain why					
				1:00	24.99
				2:00	24.38
				3:00	24.28
				4:00	24.18
				5:00	24.08
				6:00	23.98
				7:00	23.87
				8:00	23.77
				9:00	23.67
				10:00	23.57
				12:00	23.37
				14:00	23.16

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRILLING 1992	Copy of Well report provided to owner Date approval holder signed

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GIC Well ID 404736
 GoA Well Tag No.
 Date Report Received 1995/05/05

1. Well Identification and Location Measurement in Metric

Owner Name WARNER, JILL	Address P.O. BOX 32 SITE 1 RR1, COCHRANE	Town	Province	Postal Code T0L 0W0
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Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	16	31	028	03	5				

Measured from Boundary of _____ 274.32 m from North _____ 91.44 m from East	GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.443112</u> Longitude <u>-114.401522</u> How Location Obtained Not Verified	Elevation _____ m How Elevation Obtained Not Obtained
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2. Drilling Information

Method of Drilling Rotary	Type of Work New Well	Proposed Well Use Stock
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
3.66		Clay & Rocks
15.24		Shale
18.29		Sandstone
22.86		Shale
25.91		Sandstone
36.58		Shale
38.10		Sandstone
45.72		Shale & Sandstone Ledges

4. Well Completion Measurement in Metric

Total Depth Drilled	Finished Well Depth	Start Date	End Date
45.72 m		1995/04/25	1995/04/25

Diameter (cm)	From (m)	To (m)
0.00	0.00	45.72

Surface Casing (if applicable) Steel Size OD : <u>14.12 cm</u> Wall Thickness : <u>0.478 cm</u> Bottom at : <u>6.10 m</u>	Well Casing/Liner Plastic Size OD : <u>11.43 cm</u> Wall Thickness : <u>0.544 cm</u> Top at : <u>4.57 m</u> Bottom at : <u>45.72 m</u>
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Perforations	From (m)	To (m)	Diameter (cm)	Interval (cm)
	33.53	45.72	0.635	30.48

Perforated by Saw

Annular Seal Driven
 Placed from 0.00 m to 6.10 m
 Amount _____

Other Seals

Type	At (m)

Screen Type
 Size OD : 0.00 cm

From (m)	To (m)	Slot Size (cm)

Attachment _____
 Top Fittings _____ Bottom Fittings _____

Pack
 Type _____ Grain Size _____
 Amount _____

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name DEN-ALTA DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 404736
 GoA Well Tag No.
 Date Report Received 1995/05/05

1. Well Identification and Location Measurement in Metric

Owner Name WARNER, JILL *Address* P.O. BOX 32 SITE 1 RR1, COCHRANE *Town* *Province* *Postal Code* T0L 0W0

Location *1/4 or LSD* 16 *SEC* 31 *TWP* 028 *RGE* 03 *W of MER* 5 *Lot* *Block* *Plan* *Additional Description*

Measured from Boundary of *GPS Coordinates in Decimal Degrees (NAD 83)*

274.32 m from North Latitude 51.443112 Longitude -114.401522 Elevation _____ m

91.44 m from East How Location Obtained How Elevation Obtained

Not Verified Not Obtained

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm *Is Artesian Flow* _____ *Is Flow Control Installed* _____

Rate _____ L/min *Describe* _____

Recommended Pump Rate 36.37 L/min *Pump Installed* _____ *Depth* _____ m

Recommended Pump Intake Depth (From TOC) 44.20 m *Type* _____ *Model* _____ *H.P.* _____

Did you Encounter Saline Water (>4000 ppm TDS) _____ *Depth* _____ m *Well Disinfected Upon Completion* _____

Gas _____ *Depth* _____ m *Geophysical Log Taken* _____

Submitted to GIC _____

Additional Comments on Well *Sample Collected for Potability* _____ *Result Attached* _____

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1995/04/25 *Start Time* 12:00 AM *Static Water Level* 24.38 m

Method of Water Removal

Type Air

Removal Rate 36.37 L/min

Depth Withdrawn From 45.72 m

If water removal period was < 2 hours, explain why

Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
	3:00	32.00
	4:00	28.96
	5:00	27.13
	6:00	25.91
	7:00	25.30
	8:00	24.69
	9:00	24.38

6. Water Diverted for Drilling

Water Source *Amount Taken* L *Diversion Date & Time*

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER *Certification No* 1

Company Name DEN-ALTA DRILLING LTD. *Copy of Well report provided to owner* *Date approval holder signed*

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

GIC Well ID 416469
 GoA Well Tag No.
 Date Report Received 1976/01/16

1. Well Identification and Location Measurement in Metric

Owner Name MCNEILL, TERRY	Address RR4, CALGARY	Town	Province	Postal Code					
Location	1/4 or LSD SE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.405993</u>			Elevation <u>1226.82 m</u> <i>How Elevation Obtained</i> Estimated			
			How Location Obtained Map						

2. Drilling Information

Method of Drilling Cable Tool	Type of Work New Well	Proposed Well Use Domestic & Stock
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
0.30		Topsoil
8.53		Brown Clay
12.19		Brown Shale
14.63		Gray Shale
15.54	Yes	Gray Water Bearing Sandstone
18.29		Gray Shale

4. Well Completion Measurement in Metric

Total Depth Drilled	Finished Well Depth	Start Date	End Date
18.29 m			1975/08/27
Borehole			
Diameter (cm)	From (m)	To (m)	
0.00	0.00	18.29	
Surface Casing (if applicable)		Well Casing/Liner	
Steel		Steel	
Size OD : <u>16.84 cm</u>		Size OD : <u>12.70 cm</u>	
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.000 cm</u>	
Bottom at : <u>9.14 m</u>		Top at : <u>0.00 m</u>	
		Bottom at : <u>18.29 m</u>	
Perforations			
From (m)	To (m)	Diameter (cm)	Interval (cm)
13.72	16.76	0.635	30.48
Perforated by Torch			
Annular Seal Driven			
Placed from <u>0.00 m</u> to <u>9.14 m</u>			
Amount _____			
Other Seals			
Type		At (m)	
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount _____			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name INTERPROVINCIAL DRILLING CONTRACTORS	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 416469
 GoA Well Tag No.
 Date Report Received 1976/01/16

1. Well Identification and Location Measurement in Metric

Owner Name MCNEILL, TERRY	Address RR4, CALGARY	Town	Province	Postal Code					
Location	1/4 or LSD SE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ m from			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.405993</u>			Elevation <u>1226.82 m</u> How Elevation Obtained Estimated			
			How Location Obtained Map						

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm	Is Artesian Flow _____	Is Flow Control Installed _____
Rate _____ L/min	Describe _____	
Recommended Pump Rate _____ 0.00 L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 16.76 m	Type _____	Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
Additional Comments on Well DRILLER REPORTS MEDIUM HADR WATER.	Submitted to GIC _____ Sample Collected for Potability _____ Result Attached _____	

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1975/08/27	Start Time 12:00 AM	Static Water Level 9.14 m	<i>Depth to water level</i>		
			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal					
Type Bailer					
Removal Rate _____ 18.18 L/min					
Depth Withdrawn From _____ 0.00 m					
<i>If water removal period was < 2 hours, explain why</i>					

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name INTERPROVINCIAL DRILLING CONTRACTORS	Copy of Well report provided to owner _____ Date approval holder signed _____



REPORT TO:

HEALTH REGION 3
ENVIRONMENTAL HEALTH
10101 SOUTHPORT ROAD SW
CALGARY AB
T2W 3N2

Req. ID No: T104630
Lab Code: 2009070234

PRIVATE DRINKING WATER FROM:

CARTWRIGHT
RR 2
CROSSFIELD AB
T0M 0S0 (403) 650-0888

Land Description: SE-31-28-3-5
Collected: 6/8/2009
By: CHLOE CARTWRIGHT
Site: KITCHEN FAUCET
Source: Well
Depth: 280
Comments:

CERTIFICATE OF CHEMICAL ANALYSIS

CDW GUIDELINES (2007)

pH	8.57		6.5-8.5 units AO
Conductivity	1017	uS/cm	
Sodium	218.7	mg/L	≤ 200 mg/L AO
Potassium	2.36	mg/L	
Calcium	15.78	mg/L	
Magnesium	6.94	mg/L	
Total Hardness (CaCO ₃)(Calc)	67.97	mg/L	
Iron	0.02	mg/L	≤ 0.3 mg/L AO
Total Alkalinity (CaCO ₃)	560.3	mg/L	
Carbonate	21.1	mg/L	
Bicarbonate	640.6	mg/L	
Hydroxide	0	mg/L	
Chloride	0.9	mg/L	≤ 250 mg/L AO
Fluoride	1.7	mg/L	1.5 mg/L MAC
Nitrite (N)	0	mg/L	1.0 mg/L MAC
Nitrate (N)	0.6	mg/L	10 mg/L MAC
Sulfate	10.8	mg/L	≤ 500 mg/L AO
Total Dissolved Solids (Calc)	592.27	mg/L	≤ 500 mg/L AO
Cation Sum	10.93	mEq/L	
Anion Sum	11.5	mEq/L	
Ion Balance(Cation/Anion)	95.03	%	
Ion Balance (% Difference)	-2.55	%	

Comments: Results relate only to the sample tested.

Received: 6/18/2009

Reported: 7/13/2009

Certified By:

For: David W. Kinniburgh, PhD, FCACB
Director
Alberta Centre for Toxicology

CDW = Canadian Drinking Water

AO = Aesthetic Objectives

MAC = Maximum Acceptable Concentration

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

GIC Well ID 416469
 GoA Well Tag No.
 Date Report Received 1976/01/16

1. Well Identification and Location Measurement in Metric

Owner Name MCNEILL, TERRY	Address RR4, CALGARY	Town	Province	Postal Code					
Location	1/4 or LSD SE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.405993</u>			Elevation <u>1226.82 m</u> <i>How Elevation Obtained</i> Estimated			
			How Location Obtained Map						

2. Drilling Information

Method of Drilling Cable Tool	Type of Work New Well	Proposed Well Use Domestic & Stock
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
0.30		Topsoil
8.53		Brown Clay
12.19		Brown Shale
14.63		Gray Shale
15.54	Yes	Gray Water Bearing Sandstone
18.29		Gray Shale

4. Well Completion Measurement in Metric

Total Depth Drilled	Finished Well Depth	Start Date	End Date
18.29 m			1975/08/27
Borehole			
Diameter (cm)	From (m)	To (m)	
0.00	0.00	18.29	
Surface Casing (if applicable)		Well Casing/Liner	
Steel		Steel	
Size OD : <u>16.84 cm</u>		Size OD : <u>12.70 cm</u>	
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.000 cm</u>	
Bottom at : <u>9.14 m</u>		Top at : <u>0.00 m</u>	
		Bottom at : <u>18.29 m</u>	
Perforations			
From (m)	To (m)	Diameter (cm)	Interval (cm)
13.72	16.76	0.635	30.48
Perforated by Torch			
Annular Seal Driven			
Placed from <u>0.00 m</u> to <u>9.14 m</u>			
Amount _____			
Other Seals			
Type		At (m)	
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount _____			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name INTERPROVINCIAL DRILLING CONTRACTORS	Copy of Well report provided to owner Date approval holder signed

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GIC Well ID 416469
 GoA Well Tag No.
 Date Report Received 1976/01/16

1. Well Identification and Location Measurement in Metric

Owner Name MCNEILL, TERRY	Address RR4, CALGARY	Town	Province	Postal Code					
Location	1/4 or LSD SE	SEC 31	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ m from			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434730</u> Longitude <u>-114.405993</u>			Elevation <u>1226.82 m</u> How Elevation Obtained Estimated			
			How Location Obtained Map						

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm	Is Artesian Flow _____	Is Flow Control Installed _____
Rate _____ L/min	Describe _____	
Recommended Pump Rate _____ 0.00 L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 16.76 m	Type _____	Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
Additional Comments on Well DRILLER REPORTS MEDIUM HADR WATER.	Submitted to GIC _____	Sample Collected for Potability _____ Result Attached _____

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1975/08/27	Start Time 12:00 AM	Static Water Level 9.14 m	<i>Depth to water level</i>		
			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal					
Type <u>Bailer</u>					
Removal Rate <u>18.18 L/min</u>					
Depth Withdrawn From <u>0.00 m</u>					
If water removal period was < 2 hours, explain why					

6. Water Diverted for Drilling

Water Source	Amount Taken L	Diversion Date & Time
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7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name INTERPROVINCIAL DRILLING CONTRACTORS	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 2022505
GoA Well Tag No.
Date Report Received

1. Well Identification and Location Measurement in Metric

Owner Name ROBERTSON, IAN & LILA		Address RR 2		Town CROSSFIELD		Province AB		Postal Code T0M 0S0	
Location	1/4 or LSD NW	SEC 32	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____				GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.442000</u> Longitude <u>-114.394000</u>				Elevation _____ m	
				How Location Obtained Not Verified				How Elevation Obtained Not Obtained	

2. Drilling Information

Method of Drilling Rotary	Type of Work New Well	Proposed Well Use Domestic
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
0.30		Topsoil
6.71		Brown Clay & Boulders
11.28		Gray Soft Clay
13.11		Gray Hard Shale
14.02		Dark Gray Soft Shale
17.07		Gray Hard Shale
17.37		Gray Hard Sandstone
17.98		Gray Shale
18.59		Gray Hard Sandstone
21.95		Gray Shale
22.56	Yes	Gray Water Bearing Sandstone
24.08		Dark Gray Shale
25.30		Gray Sandstone
28.04		Gray Shale
30.18		Gray Sandstone
33.53		Dark Gray Shale

4. Well Completion Measurement in Metric

Total Depth Drilled 33.53 m	Finished Well Depth	Start Date 2004/09/09	End Date 2004/09/10
Borehole			
Diameter (cm) 13.02	From (m) 0.00	To (m) 33.53	
Surface Casing (if applicable) Steel		Well Casing/Liner Plastic	
Size OD : <u>14.13 cm</u>		Size OD : <u>11.43 cm</u>	
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.635 cm</u>	
Bottom at : <u>11.58 m</u>		Top at : <u>10.67 m</u>	
Bottom at : <u>33.53 m</u>			
Perforations			
From (m) 18.29	To (m) 30.48	Diameter (cm) 0.318	Interval (cm) 15.24
Perforated by <u>Saw</u>			
Annular Seal Bentonite Chips/Tablets			
Placed from <u>0.00 m</u> to <u>11.58 m</u>			
Amount _____			
Other Seals			
Type _____		At (m) _____	
Screen Type			
Size OD : _____ cm			
From (m)	To (m)	Slot Size (cm)	
_____	_____	_____	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type <u>Unknown</u>		Grain Size _____	
Amount <u>Unknown</u>			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well WAYNE LEASK	Certification No 2883Q
Company Name A&W DRILLING	Copy of Well report provided to owner _____ Date approval holder signed _____

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

GIC Well ID 2022505
GoA Well Tag No.
Date Report Received

1. Well Identification and Location Measurement in Metric

Owner Name ROBERTSON, IAN & LILA	Address RR 2	Town CROSSFIELD	Province AB	Postal Code T0M 0S0					
Location	1/4 or LSD NW	SEC 32	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____		GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.442000</u> Longitude <u>-114.394000</u>			Elevation _____ m		How Elevation Obtained Not Obtained		
		How Location Obtained Not Verified							

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ 60.96 cm	Is Flow Control Installed _____
Is Artesian Flow _____	Describe _____
Rate _____ L/min	
Recommended Pump Rate _____ 14.41 L/min	Pump Installed _____ Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 30.00 m	Type _____ Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____ Depth _____ m	Well Disinfected Upon Completion _____
Gas _____ Depth _____ m	Geophysical Log Taken _____
	Submitted to GIC _____
Additional Comments on Well WATER BEARING FORMATION YIELDS 4 IGPM DURING DRILLING	Sample Collected for Potability _____ Result Attached _____

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 2004/09/15	Start Time 12:00 AM	Static Water Level 12.60 m																																																																															
Method of Water Removal Type <u>Pump</u>			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Drawdown (m)</th> <th>Elapsed Time Minutes:Sec</th> <th>Recovery (m)</th> </tr> </thead> <tbody> <tr><td>12.60</td><td>0:00</td><td>15.59</td></tr> <tr><td>14.70</td><td>1:00</td><td>14.35</td></tr> <tr><td>13.98</td><td>2:00</td><td>13.96</td></tr> <tr><td>13.74</td><td>3:00</td><td>13.65</td></tr> <tr><td>13.50</td><td>4:00</td><td>13.12</td></tr> <tr><td>13.28</td><td>5:00</td><td>13.05</td></tr> <tr><td>13.20</td><td>6:00</td><td>13.02</td></tr> <tr><td>13.20</td><td>7:00</td><td>13.03</td></tr> <tr><td>13.18</td><td>8:00</td><td>13.01</td></tr> <tr><td>13.16</td><td>9:00</td><td>13.00</td></tr> <tr><td>13.30</td><td>10:00</td><td>12.99</td></tr> <tr><td>13.37</td><td>12:00</td><td>12.97</td></tr> <tr><td>13.39</td><td>14:00</td><td>12.95</td></tr> <tr><td>13.56</td><td>16:00</td><td>12.95</td></tr> <tr><td>13.74</td><td>20:00</td><td>12.93</td></tr> <tr><td>13.91</td><td>25:00</td><td>12.91</td></tr> <tr><td>14.05</td><td>30:00</td><td>12.89</td></tr> <tr><td>14.18</td><td>35:00</td><td>12.87</td></tr> <tr><td>14.29</td><td>40:00</td><td>12.86</td></tr> <tr><td>14.45</td><td>50:00</td><td>12.83</td></tr> <tr><td>14.59</td><td>60:00</td><td>12.82</td></tr> <tr><td>14.88</td><td>75:00</td><td>12.79</td></tr> <tr><td>15.13</td><td>90:00</td><td>12.78</td></tr> <tr><td>15.35</td><td>105:00</td><td>12.76</td></tr> <tr><td>15.59</td><td>120:00</td><td>12.75</td></tr> </tbody> </table>	Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)	12.60	0:00	15.59	14.70	1:00	14.35	13.98	2:00	13.96	13.74	3:00	13.65	13.50	4:00	13.12	13.28	5:00	13.05	13.20	6:00	13.02	13.20	7:00	13.03	13.18	8:00	13.01	13.16	9:00	13.00	13.30	10:00	12.99	13.37	12:00	12.97	13.39	14:00	12.95	13.56	16:00	12.95	13.74	20:00	12.93	13.91	25:00	12.91	14.05	30:00	12.89	14.18	35:00	12.87	14.29	40:00	12.86	14.45	50:00	12.83	14.59	60:00	12.82	14.88	75:00	12.79	15.13	90:00	12.78	15.35	105:00	12.76	15.59	120:00	12.75
Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)																																																																															
12.60	0:00	15.59																																																																															
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14.59	60:00	12.82																																																																															
14.88	75:00	12.79																																																																															
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15.35	105:00	12.76																																																																															
15.59	120:00	12.75																																																																															
Removal Rate _____ 14.41 L/min																																																																																	
Depth Withdrawn From _____ 33.00 m																																																																																	
If water removal period was < 2 hours, explain why																																																																																	

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well WAYNE LEASK	Certification No 2883Q
Company Name A&W DRILLING	Copy of Well report provided to owner _____ Date approval holder signed _____

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

GIC Well ID 352191
 GoA Well Tag No.
 Date Report Received 1990/10/03

1. Well Identification and Location Measurement in Metric

Owner Name CANADIAN HUNTER/BRELCO 11		Address	Town	Province	Postal Code				
Location	1/4 or LSD 06	SEC 32	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.436539</u> Longitude <u>-114.391226</u>			Elevation _____ m How Elevation Obtained Not Obtained			
			How Location Obtained Not Verified						

2. Drilling Information

Method of Drilling Rotary	Type of Work New Well	Proposed Well Use Industrial
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
1.52		Clay
17.07		Brown Sandstone
23.47		Gray Shale
35.97		Gray Sandstone
38.71		Gray Shale
41.45		Gray Sandstone
52.12		Gray Shale
56.69		Gray Sandstone
60.05		Gray Shale
64.31		Gray Sandstone
91.44		Gray Shale

4. Well Completion Measurement in Metric

Total Depth Drilled 91.44 m	Finished Well Depth	Start Date 1990/09/25	End Date 1990/09/26
Borehole			
Diameter (cm) 0.00	From (m) 0.00	To (m) 91.44	
Surface Casing (if applicable) Steel		Well Casing/Liner Steel	
Size OD : <u>13.97 cm</u>		Size OD : <u>11.43 cm</u>	
Wall Thickness : <u>0.620 cm</u>		Wall Thickness : <u>0.396 cm</u>	
Bottom at : <u>12.19 m</u>		Top at : <u>3.05 m</u>	
Bottom at : <u>91.44 m</u>			
Perforations			
From (m)	To (m)	Diameter (cm)	Interval (cm)
12.19	42.67	0.000	0.00
48.77	54.86	0.000	0.00
60.96	67.06	0.000	0.00
Perforated by Torch			
Annular Seal Driven			
Placed from <u>0.00 m</u> to <u>12.19 m</u>			
Amount _____			
Other Seals			
Type		At (m)	
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount <u>0.00</u>			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name ALKEN BASIN DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 352191
 GoA Well Tag No.
 Date Report Received 1990/10/03

1. Well Identification and Location Measurement in Metric

Owner Name CANADIAN HUNTER/BRELCO 11		Address	Town	Province	Postal Code				
Location	1/4 or LSD 06	SEC 32	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.436539</u> Longitude <u>-114.391226</u>			Elevation _____ m		How Elevation Obtained Not Obtained	
			How Location Obtained Not Verified						

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm	Is Artesian Flow _____	Is Flow Control Installed _____
Rate _____ L/min	Describe _____	
Recommended Pump Rate _____ 136.38 L/min	Pump Installed Yes _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 67.06 m	Type SUB _____	Model GOULD _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
Additional Comments on Well Rig Well. Ownership transferred to Jim McCarther on Feb 06 1991.		Submitted to GIC _____
		Sample Collected for Potability _____ Result Attached _____

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1990/09/26	Start Time 12:00 AM	Static Water Level 15.85 m	<i>Depth to water level</i>		
			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal					
Type Pump _____					
Removal Rate _____ 136.38 L/min					
Depth Withdrawn From _____ 0.00 m					
<i>If water removal period was < 2 hours, explain why</i>					

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name ALKEN BASIN DRILLING LTD.	Copy of Well report provided to owner _____ Date approval holder signed _____

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

GIC Well ID 392004
GoA Well Tag No.
Date Report Received 1974/11/01

1. Well Identification and Location Measurement in Metric

Owner Name ROBERTSON, LOY	Address RR2, CROSSFIELD	Town	Province	Postal Code					
Location	1/4 or LSD NW	SEC 32	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ m from		GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.441963</u> Longitude <u>-114.394122</u>			Elevation _____ m		How Elevation Obtained Not Obtained		
		How Location Obtained			Phone				

2. Drilling Information

Method of Drilling Cable Tool	Type of Work New Well	Proposed Well Use Stock
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
0.91		Black Clay
3.66		Yellow Clay
8.23		Gray Clay & Boulders
10.06		Blue Gray Clay
10.67		Brown Hard Sandstone
11.28		Gray Shale
12.19		Hard Sandstone
14.02		Gray Firm Shale
14.63		Black Sandstone
14.94		Gray Soft Shale
15.24		Hard Sandstone

4. Well Completion Measurement in Metric

Total Depth Drilled 15.24 m	Finished Well Depth	Start Date	End Date 1974/07/04
Borehole			
Diameter (cm) 0.00	From (m) 0.00	To (m) 15.24	
Surface Casing (if applicable) Steel		Well Casing/Liner Steel	
Size OD : <u>13.97 cm</u>		Size OD : <u>11.68 cm</u>	
Wall Thickness : <u>0.000 cm</u>		Wall Thickness : <u>0.000 cm</u>	
Bottom at : <u>10.06 m</u>		Top at : <u>0.00 m</u>	
Bottom at : <u>15.24 m</u>			
Perforations			
From (m) 9.75	To (m) 14.33	Diameter (cm) 0.000	Interval (cm) 0.00
Perforated by _____			
Annular Seal Drive Shoe			
Placed from <u>0.00 m</u> to <u>0.00 m</u>			
Amount _____			
Other Seals			
Type	At (m)		
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount _____			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRLG	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 392004
 GoA Well Tag No.
 Date Report Received 1974/11/01

1. Well Identification and Location Measurement in Metric

Owner Name ROBERTSON, LOY	Address RR2, CROSSFIELD	Town	Province	Postal Code					
Location	1/4 or LSD NW	SEC 32	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of			GPS Coordinates in Decimal Degrees (NAD 83)			Elevation _____ m			
_____ m from			Latitude <u>51.441963</u> Longitude <u>-114.394122</u>			How Elevation Obtained			
_____ m from			How Location Obtained			Not Obtained			
Phone									

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm	Is Artesian Flow _____	Is Flow Control Installed _____
Rate _____ L/min	Describe _____	
Recommended Pump Rate _____ 0.00 L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 0.00 m	Type _____	Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
Submitted to GIC _____	Additional Comments on Well	
Sample Collected for Potability _____	Result Attached _____	

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1974/07/04	Start Time 12:00 AM	Static Water Level 8.84 m	<i>Depth to water level</i>		
			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal					
Type <u>Bailer</u>					
Removal Rate <u>136.38 L/min</u>					
Depth Withdrawn From <u>0.00 m</u>					
If water removal period was < 2 hours, explain why					

6. Water Diverted for Drilling

Water Source	Amount Taken	L	Diversion Date & Time
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7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRLG	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 392007
 GoA Well Tag No.
 Date Report Received 1989/05/16

1. Well Identification and Location Measurement in Metric

Owner Name ROBERTSON, LOY J.	Address RR2, CROSSFIELD	Town	Province	Postal Code T0M 0S0					
Location	1/4 or LSD NW	SEC 32	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____		GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.441963</u> Longitude <u>-114.394122</u>			Elevation _____ m		How Elevation Obtained Not Obtained		
		How Location Obtained Map							

2. Drilling Information

Method of Drilling Cable Tool	Type of Work New Well	Proposed Well Use Domestic & Stock
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
0.30		Black Clay
1.52		Brown Clay & Rocks
3.96		Brown Silty Clay & Shale
6.71		Gray Firm Shale
8.23		Gray Hard Sandstone
9.14		Gray Firm Shale
10.06		Gray Hard Sandstone
10.67		Gray Firm Shale
11.58		Gray Hard Sandstone
12.80		Gray Firm Shale
13.11		Gray Hard Sandstone
18.59	Yes	Gray Water Bearing Shale
19.51		Gray Hard Sandstone
24.69		Gray Firm Shale
26.52		Gray Hard Shale
27.74		Gray Firm Shale
29.26		Gray Hard Shale
42.67	Yes	Gray Water Bearing Shale

4. Well Completion Measurement in Metric

Total Depth Drilled 42.67 m	Finished Well Depth 0.00 m	Start Date 1989/03/06	End Date 1989/03/25
Borehole			
Diameter (cm) 0.00	From (m) 0.00	To (m) 42.67	
Surface Casing (if applicable) Steel		Well Casing/Liner Plastic	
Size OD : <u>13.97 cm</u>		Size OD : <u>11.43 cm</u>	
Wall Thickness : <u>0.478 cm</u>		Wall Thickness : <u>0.673 cm</u>	
Bottom at : <u>7.92 m</u>		Top at : <u>6.10 m</u>	
		Bottom at : <u>42.67 m</u>	
Perforations			
From (m) 35.05	To (m) 42.06	Diameter (cm) 0.953	Interval (cm) 45.72
Perforated by <u>Machine</u>			
Annular Seal Drive Shoe			
Placed from <u>7.92 m</u> to <u>0.00 m</u>			
Amount _____			
Other Seals			
Type _____		At (m) _____	
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount _____			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRILLING	Copy of Well report provided to owner <u> </u> Date approval holder signed <u> </u>

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

GIC Well ID 392007
 GoA Well Tag No.
 Date Report Received 1989/05/16

1. Well Identification and Location Measurement in Metric

Owner Name ROBERTSON, LOY J.	Address RR2, CROSSFIELD	Town	Province	Postal Code T0M 0S0					
Location	1/4 or LSD NW	SEC 32	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of			GPS Coordinates in Decimal Degrees (NAD 83)			Elevation _____ m			
_____ m from			Latitude <u>51.441963</u>			Longitude <u>-114.394122</u>			
_____ m from			How Location Obtained			How Elevation Obtained			
			Map			Not Obtained			

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm	Is Artesian Flow _____	Is Flow Control Installed _____
Rate _____ L/min	Describe _____	
Recommended Pump Rate _____ 27.28 L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 41.15 m	Type _____	Model _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
Additional Comments on Well _____	Submitted to GIC _____	Sample Collected for Potability _____ Result Attached _____

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1989/03/25	Start Time 12:00 AM	Static Water Level 22.56 m	<i>Depth to water level</i>		
			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal					
Type <u>Bailer</u>					
Removal Rate <u>31.82 L/min</u>					
Depth Withdrawn From <u>37.19 m</u>					
If water removal period was < 2 hours, explain why					

6. Water Diverted for Drilling

Water Source	Amount Taken	L	Diversions Date & Time
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7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRILLING	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 352190
 GoA Well Tag No.
 Date Report Received 1990/10/03

1. Well Identification and Location Measurement in Metric

Owner Name CANADIAN HUNTER/BRELCO 11		Address	Town	Province	Postal Code				
Location	1/4 or LSD 06	SEC 32	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.436539</u> Longitude <u>-114.391226</u>			Elevation _____ m How Elevation Obtained Not Obtained			

2. Drilling Information

Method of Drilling Rotary	Type of Work New Well	Proposed Well Use Industrial
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3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
1.83		Clay
11.28		Brown Sandstone
19.20		Brown Shale
47.55		Gray Shale
60.35		Gray Sandstone
67.06		Gray Shale

4. Well Completion Measurement in Metric

Total Depth Drilled 67.06 m	Finished Well Depth	Start Date 1990/09/25	End Date 1990/09/25
Borehole			
Diameter (cm) 0.00	From (m) 0.00	To (m) 67.06	
Surface Casing (if applicable)		Well Casing/Liner	
Size OD : <u>0.00 cm</u>		Size OD : <u>11.43 cm</u>	
Wall Thickness : <u>0.000 cm</u>		Wall Thickness : <u>0.396 cm</u>	
Bottom at : <u>0.00 m</u>		Top at : <u>0.00 m</u>	
		Bottom at : <u>60.96 m</u>	
Perforations			
From (m) 42.67	To (m) 60.96	Diameter (cm) 0.000	Interval (cm) 0.00
Perforated by Torch			
Annular Seal Shale Trap			
Placed from <u>9.14 m</u> to <u>42.67 m</u>			
Amount _____			
Other Seals			
Type		At (m)	
Screen Type			
Size OD : <u>0.00 cm</u>			
From (m)	To (m)	Slot Size (cm)	
Attachment _____			
Top Fittings _____		Bottom Fittings _____	
Pack			
Type _____		Grain Size _____	
Amount <u>0.00</u>			

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name ALKEN BASIN DRILLING LTD.	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 352190
 GoA Well Tag No.
 Date Report Received 1990/10/03

1. Well Identification and Location Measurement in Metric

Owner Name CANADIAN HUNTER/BRELCO 11		Address	Town	Province	Postal Code				
Location	1/4 or LSD 06	SEC 32	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____			GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.436539</u> Longitude <u>-114.391226</u>			Elevation _____ m		How Elevation Obtained Not Obtained	
			How Location Obtained Not Verified						

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm	Is Artesian Flow _____	Is Flow Control Installed _____
Rate _____ L/min	Describe _____	
Recommended Pump Rate _____ 54.55 L/min	Pump Installed Yes _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 59.74 m	Type SUB _____	Model GOULD _____ H.P. _____
Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
Additional Comments on Well Camp Well. Ownership transferred to Buster Sachswell on Feb 6 1991.		Submitted to GIC _____
		Sample Collected for Potability _____ Result Attached _____

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1990/09/25	Start Time 12:00 AM	Static Water Level 47.85 m	<i>Depth to water level</i>		
			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Method of Water Removal					
Type Air _____					
Removal Rate _____ 54.55 L/min					
Depth Withdrawn From _____ 0.00 m					
<i>If water removal period was < 2 hours, explain why</i>					

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name ALKEN BASIN DRILLING LTD.	Copy of Well report provided to owner _____ Date approval holder signed _____

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

GIC Well ID 491258
GoA Well Tag No.
Date Report Received 1998/12/17

1. Well Identification and Location										Measurement in Metric	
Owner Name		Address			Town		Province		Postal Code		
PHIL POLLOCK RANCHES LTD		P.O. BOX 293 CROSSFIELD							T0M 0S0		
Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	SW	32	028	03	5						
Measured from Boundary of				GPS Coordinates in Decimal Degrees (NAD 83)				Elevation _____ m			
_____ m from _____				Latitude <u>51.434731</u> Longitude <u>-114.394119</u>				How Elevation Obtained _____			
_____ m from _____				How Location Obtained _____				Not Obtained			
				Not Verified							

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

3. Formation Log		Measurement in Metric
Depth from ground level (m)	Water Bearing	Lithology Description
3.66		Clay & Boulders
7.92		Brown Shale
9.75		Brown Sandstone
14.63		Brown Shale
35.05		Gray Shale

4. Well Completion				Measurement in Metric
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
35.05 m		1998/10/24	1998/10/26	
Borehole				
Diameter (cm)		From (m)	To (m)	
0.00		0.00	35.05	
Surface Casing (if applicable)		Well Casing/Liner		
Steel		Plastic		
Size OD : <u>13.97 cm</u>		Size OD : <u>11.43 cm</u>		
Wall Thickness : <u>0.620 cm</u>		Wall Thickness : <u>0.544 cm</u>		
Bottom at : <u>5.49 m</u>		Top at : <u>4.57 m</u>		
		Bottom at : <u>35.05 m</u>		
Perforations				
From (m)	To (m)	Diameter (cm)	Interval (cm)	
22.86	33.53	0.318	15.24	
Perforated by Saw				
Annular Seal Driven				
Placed from <u>0.00 m</u> to <u>5.49 m</u>				
Amount _____				
Other Seals				
Type		At (m)		
Screen Type				
Size OD : <u>0.00 cm</u>				
From (m)	To (m)	Slot Size (cm)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
Pack				
Type _____		Grain Size _____		
Amount _____				

7. Contractor Certification	
Name of Journeyman responsible for drilling/construction of well	Certification No
UNKNOWN NA DRILLER	1
Company Name	Copy of Well report provided to owner
M.E. LAWSON WATER WELLS	Date approval holder signed

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

GIC Well ID 491258
 GoA Well Tag No.
 Date Report Received 1998/12/17

1. Well Identification and Location Measurement in Metric

Owner Name PHIL POLLOCK RANCHES LTD		Address P.O. BOX 293 CROSSFIELD		Town		Province		Postal Code T0M 0S0	
Location	1/4 or LSD SW	SEC 32	TWP 028	RGE 03	W of MER 5	Lot	Block	Plan	Additional Description
Measured from Boundary of _____ m from _____ _____ m from _____				GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.434731</u> Longitude <u>-114.394119</u>				Elevation _____ m	
				How Location Obtained Not Verified				How Elevation Obtained Not Obtained	

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm		Is Artesian Flow _____		Is Flow Control Installed _____	
Rate _____ L/min		Describe _____			
Recommended Pump Rate _____ 45.46 L/min		Pump Installed Yes _____		Depth _____ m	
Recommended Pump Intake Depth (From TOC) _____ 31.39 m		Type _____		Model _____ H.P. .5	
Did you Encounter Saline Water (>4000 ppm TDS) _____		Depth _____ m		Well Disinfected Upon Completion _____	
Gas _____		Depth _____ m		Geophysical Log Taken _____	
Additional Comments on Well DRILLER REPORTS DISTANCE FROM TOP OF CASING TO GROUND LEVEL: 18".				Submitted to GIC _____	
				Sample Collected for Potability _____ Result Attached _____	

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1998/10/27	Start Time 2:23 AM	Static Water Level 12.80 m	Depth to water level		
Method of Water Removal Type <u>Pump</u>			Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)
Removal Rate _____ 36.37 L/min			12.80	0:00	
Depth Withdrawn From _____ 31.39 m			15.24	2:00	12.80
If water removal period was < 2 hours, explain why					

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name M.E. LAWSON WATER WELLS	Copy of Well report provided to owner _____ Date approval holder signed _____

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

GIC Well ID 354778
 GoA Well Tag No.
 Date Report Received 1991/01/10

1. Well Identification and Location Measurement in Metric

Owner Name WYATT, GORDON LOCKERMUELLER, H	Address 1131 KENSINGTON RD NW, CALGARY	Town	Province	Postal Code T2N 3P4
---	---	-------------	-----------------	-------------------------------

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	NE	32	028	03	5				

Measured from Boundary of _____ m from _____ _____ m from _____	GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.441963</u> Longitude <u>-114.382546</u> How Location Obtained _____ Phone _____	Elevation _____ m How Elevation Obtained _____ Not Obtained
--	--	--

2. Drilling Information

Method of Drilling Cable Tool	Type of Work New Well	Proposed Well Use Domestic
---	---------------------------------	--------------------------------------

3. Formation Log Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
3.66		Brown Clay
4.57		Hard Sandstone
17.98		Gray Clay & Shale
18.90		Gray Clay
19.51		Hard Shale
21.95		Gray Soft Shale
22.56		Brown Sandstone
24.38		Gray Shale
25.91		Sandstone
26.52		Gray Shale

4. Well Completion Measurement in Metric

Total Depth Drilled	Finished Well Depth	Start Date	End Date
26.52 m			1963/10/17

Borehole		
Diameter (cm)	From (m)	To (m)
0.00	0.00	26.52

Surface Casing (if applicable)	Well Casing/Liner
Steel	
Size OD : <u>12.70 cm</u>	Size OD : <u>0.00 cm</u>
Wall Thickness : <u>0.000 cm</u>	Wall Thickness : <u>0.000 cm</u>
Bottom at : <u>23.47 m</u>	Top at : <u>0.00 m</u>
	Bottom at : <u>0.00 m</u>

Perforations			
From (m)	To (m)	Diameter (cm)	Interval (cm)

Perforated by _____

Annular Seal Loose
 Placed from 0.00 m to 0.00 m
 Amount _____

Other Seals

Type	At (m)

Screen Type

Size OD : 0.00 cm

From (m)	To (m)	Slot Size (cm)

Attachment _____

Top Fittings _____ Bottom Fittings _____

Pack

Type _____ Grain Size _____

Amount 0.00

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRLG	Copy of Well report provided to owner Date approval holder signed

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

GIC Well ID 354778
 GoA Well Tag No.
 Date Report Received 1991/01/10

1. Well Identification and Location Measurement in Metric

Owner Name WYATT, GORDON LOCKERMUELLER, H	Address 1131 KENSINGTON RD NW, CALGARY	Town	Province	Postal Code T2N 3P4
---	---	-------------	-----------------	-------------------------------

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	NE	32	028	03	5				

Measured from Boundary of _____ m from _____ _____ m from _____	GPS Coordinates in Decimal Degrees (NAD 83) Latitude <u>51.441963</u> Longitude <u>-114.382546</u> How Location Obtained _____ Phone _____	Elevation _____ m How Elevation Obtained _____ Not Obtained
--	--	--

Additional Information Measurement in Metric

Distance From Top of Casing to Ground Level _____ cm	Is Flow Control Installed _____
Is Artesian Flow _____	Describe _____
Rate _____ L/min	

Recommended Pump Rate _____ 0.00 L/min	Pump Installed _____	Depth _____ m
Recommended Pump Intake Depth (From TOC) _____ 0.00 m	Type _____	Model _____ H.P. _____

Did you Encounter Saline Water (>4000 ppm TDS) _____	Depth _____ m	Well Disinfected Upon Completion _____
Gas _____	Depth _____ m	Geophysical Log Taken _____
		Submitted to GIC _____
Additional Comments on Well _____		Sample Collected for Potability _____ Result Attached _____

5. Yield Test Measurement in Metric Taken From Ground Level

Test Date 1963/10/17	Start Time 12:00 AM	Static Water Level 21.95 m	<i>Depth to water level</i>						
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 33%;">Drawdown (m)</th> <th style="width: 33%;">Elapsed Time Minutes:Sec</th> <th style="width: 33%;">Recovery (m)</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)			
Drawdown (m)	Elapsed Time Minutes:Sec	Recovery (m)							

Method of Water Removal
 Type _____
 Removal Rate 40.91 L/min
 Depth Withdrawn From 0.00 m

If water removal period was < 2 hours, explain why

6. Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	L	

7. Contractor Certification

Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name PARSONS DRLG	Copy of Well report provided to owner Date approval holder signed

Appendix C

Pumping

WILD ROSE WATER WELLS LTD.

Olds, AB
Phone: 403-556-6700

Date Tested: NOV 10/10 Tested by: RW.
Time Tested: 12:00 PM Position: _____

1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD
SE	31	28	3	5

Elapsed Time in Minutes	Depth to Water Level During Pumping	Depth to Water Level During Pumping
0	6.54	180 6.84
1	6.59	240 6.87
2	6.605	300 6.90
3	6.62	360 6.92
4	6.63	420 6.94
5	6.64	480 6.96
6	6.64	540 6.96
7	6.65	600 6.98
8	6.655	660 7.00
9	6.66	720 7.01
10	6.665	780 7.03
15	6.68	840
20	6.70	900 7.055
25	6.71	960
30	6.72	1020 7.075
35		1080
40	6.73	1140 7.10
50	6.75	1200 7.12
60	6.755	1260 7.13
70	6.77	1320 7.145
80	6.78	1380 7.15
90	6.79	1440 7.165
100	6.795	
120	6.81	

WATER WELL FLOW TEST

Well Site Location: #3 WELL Pump Park
 AFE#: _____
 File#: _____
 GPS: 116.79944 57.01162 1214 m
 Well Owner: CALOE CARTWRIGHT
 Address: _____
 Location on Property: _____
 Phone No.: _____

Remarks

Measurements in: METERS meters

Water Samples

Taken From: END OF DISCHARGE HOSE
 Sediment: NO
 Colour: CLEAR
 Odour: NO
 Gas: NO

Water Well Information

Well I.D. #: _____
 Depth: _____
 Completion Date: _____
 Well Use: _____
 Expected Yield: _____
 Condition of Well: _____
 Well Diameter: _____
 Screen Interval: _____
 Static Level: _____
 Landowner/Occupant Testimonials: _____

Test Requested by:

Name: CHLOE CARTWRIGHT
 Address: _____
 c/o: _____
 Phone No.: _____
 Contact Person: _____

Flow Rate Information

Pumped at: 15 98.2 w/d I.G.P.M.
 Pressure gauge reading: _____ P.S.I.
 Measured from: TOP OF CASING
 Distance to ground level: 75m

RECOVERY

WILD ROSE WATER WELLS LTD.

Olds, AB
Phone: 403-556-6700

WATER WELL FLOW TEST

Well Site Location: B3 WELL PUMPING

AFE#: _____

File#: _____

GPS: _____

Well Owner: CHLOE CARTWRIGHT

Address: _____

Location on Property: _____

Phone No.: _____

Date Tested: NOV 11/10 Tested by: _____
Time Tested: _____ Position: _____

1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD
SE	31	28	3	5

Elapsed Time in Minutes	Depth to Water Level During RECOVERY	Depth to Water Level During Recovery
0	7.165 m	180 6.915
1	7.11	360 6.88
2	7.085	540 6.81
3	7.08	1200 6.725
4	7.07	1440 6.69
5	7.065	
6	7.06	
7	7.055	
8	7.05	
9	7.045	
10	7.04	
15	7.03	
20	7.02	
25	7.01	
30	7.005	
35	7.00	
40	7.995	
50	7.99	
60	7.98	
70	7.975	
80	7.965	
90	7.96	
100		
120	7.945	

Remarks

Measurements in: _____ meters

Water Samples

Taken From: _____

Sediment: _____

Colour: _____

Odour: _____

Gas: _____

Water Well Information

Well I.D. #: _____

Depth: _____

Completion Date: _____

Well Use: _____

Expected Yield: _____

Condition of Well: _____

Well Diameter: _____

Screen Interval: _____

Static Level: _____

Landowner/Occupant Testimonials: _____

Test Requested by:

Name: _____

Address: _____

c/o: _____

Phone No.: _____

Contact Person: _____

Flow Rate Information

Pumped at: _____ G.P.M.

Pressure gauge reading: _____ P.S.I.

Measured from: _____

Distance to ground level: _____

PUMPING

WILD ROSE WATER WELLS LTD.

Olds, AB
Phone: 403-556-6700

WATER WELL FLOW TEST

Well Site Location: #1 MONITOR WELL

AFE#: _____

File#: _____

GPS: 116.80001 57.01130 1217m

Well Owner: CHLOE CARTWRIGHT

Address: _____

Location on Property: _____

Phone No.: _____

Date Tested: NOV 10/10 Tested by: _____

Time Tested: _____ Position: _____

1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD
SE	31	28	3	5

Elapsed Time in Minutes	Depth to Water Level During Pumping	Depth to Water Level During
0	7.77m	180 7.80
1		240 7.81
2		300 7.81
3		360 7.82
4		420 7.83
5		480 7.83
6		540 7.84
7		600 7.84
8		660 7.86
9		720 7.85
10		780 7.86
15		840
20 23	7.775	900 7.87
25		960
30 38	7.78	1020
35		1080
40		1140 7.89
50 53	7.78	1200 7.90
60		1260 7.90
70 72	7.78	1320 7.91
80		1380 7.915
90 96	7.785	1440 7.915
100		
120	7.79	

Remarks

Measurements in: meters

Water Samples

Taken From: _____

Sediment: _____

Colour: _____

Odour: _____

Gas: _____

Water Well Information

Well I.D. #: _____

Depth: _____

Completion Date: _____

Well Use: _____

Expected Yield: _____

Condition of Well: _____

Well Diameter: _____

Screen Interval: _____

Static Level: _____

Landowner/Occupant Testimonials: _____

Test Requested by:

Name: _____

Address: _____

Flow Rate Information

Pumped at: _____ G.P.M.

RECOVERY

WILD ROSE WATER WELLS LTD.

Olds, AB
Phone: 403-556-6700

WATER WELL FLOW TEST

Well Site Location: #1 MONITOR WELL

AFE#: _____

File#: _____

GPS: _____

Well Owner: _____

Address: _____

Location on Property: _____

Phone No.: _____

Date Tested: NOV 11/10 Tested by: _____

Time Tested: _____ Position: _____

1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD
SE	31	28	3	5

Elapsed Time in Minutes	Depth to Water Level During RECOVERY	Depth to Water Level During Recovery
0	7.915m	180 7.90
1		360 7.90
2		540 7.90
3		1200 7.90
4		1440 7.895
5		
6		
7		
8		
9		
10		
15		
20 23	7.91	
25		
30 37	7.91	
35		
40 47	7.91	
50		
60	7.905	
70		
80		
90	7.905	
100		
120	7.905	

Remarks

Measurements in: _____

meters

Water Samples

Taken From: _____

Sediment: _____

Colour: _____

Odour: _____

Gas: _____

Water Well Information

Well I.D. #: _____

Depth: _____

Completion Date: _____

Well Use: _____

Expected Yield: _____

Condition of Well: _____

Well Diameter: _____

Screen Interval: _____

Static Level: _____

Landowner/Occupant Testimonials: _____

Test Requested by:

Name: _____

Address: _____

Flow Rate Information

Pumped at: _____ G.P.M.

WILD ROSE WATER WELLS LTD.

Olds, AB
Phone: 403-556-6700

Date Tested: NOV 10/10 Tested by: R.W
Time Tested: 12:00 pm Position: _____

1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD
SE	31	28	3	5

Elapsed Time in Minutes	Depth to Water Level During Pumping	Depth to Water Level During Pumping
0	7.60m	180
1		240 7.90
2		300 7.93
3		360 7.96
4		420 7.97
5		480 7.99
6		540 8.00
7		600 8.005
8		660 8.02
9		720 8.04
10 12	7.67	780 8.05
15		840
20		900 8.075
25		960
30	7.73	1020
35		1080
40 42	7.75	1140 8.12
50 56	7.77	1200 8.135
60		1260 8.145
70 75	7.79	1320 8.17
80		1380 8.18
90 93	7.81	1440 8.19
100		
120	7.835	

Test Requested by:

Name: _____
Address: _____

Pumping

WATER WELL FLOW TEST

Well Site Location: #2 MONITOR WELL
AFE#: _____
File#: _____
GPS: 116.79927 5701110 1216 m ELE
Well Owner: CHLOE CARTWRIGHT
Address: _____

Location on Property: _____
Phone No.: _____

Remarks

Measurements in: meters

Water Samples

Taken From: _____
Sediment: _____
Colour: _____
Odour: _____
Gas: _____

Water Well Information

Well I.D. #: _____
Depth: _____
Completion Date: _____
Well Use: _____
Expected Yield: _____
Condition of Well: _____
Well Diameter: _____
Screen Interval: _____
Static Level: _____
Landowner/Occupant Testimonials: _____

Flow Rate Information

Pumped at: _____ G.P.M.

WILD ROSE WATER WELLS LTD.

Olds, AB
Phone: 403-556-6700

Date Tested: NOV 11/10 Tested by: _____

Time Tested: _____ Position: _____

1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD	1/4 or LSD
SE	31	28	3	5

Elapsed Time In Minutes	Depth to Water Level During RECOVERY	Depth to Water Level During Recovery
0	8.19	180 7.98
1		360 7.945
2		540 7.89
3		720 7.78
4		900 7.76
5		
6		
7		
8		
9		
10 13	8.13	
15		
20		
25		
30 33	8.085	
35		
40 43	8.07	
50		
60	8.05	
70		
80		
90	8.03	
100		
120	8.01	

Test Requested by:

Name: _____

Address: _____

RECOVERY

WATER WELL FLOW TEST

Well Site Location: #2 MONITOR WELL

AFE#: _____

File#: _____

GPS: 116.79927 57.01110 1216m

Well Owner: _____

Address: _____

Location on Property: _____

Phone No.: _____

Remarks

Measurements in: meters

Water Samples

Taken From: _____

Sediment: _____

Colour: _____

Odour: _____

Gas: _____

Water Well Information

Well I.D. #: _____

Depth: _____

Completion Date: _____

Well Use: _____

Expected Yield: _____

Condition of Well: _____

Well Diameter: _____

Screen Interval: _____

Static Level: _____

Landowner/Occupant Testimonials: _____

Flow Rate Information

Pumped at: _____ G.P.M.



Stantec

Stantec Consulting Ltd.
600 - 4808 Ross Street
Red Deer, AB T4N 1X5
Tel. 403-341-3320

Pumping Test - Water Level Data

Project: Chinook Ridge Lodge and Golf Course

Number: 149104750

Client: Chloe Cartwright

Location: SE-31-28-3-W.5

Pumping Test: Aquifer Test

Pumping Well: Well 1

Test Conducted by: Wild Rose Water Wells Ltd.

Test Date: 11/10/2010

Discharge: variable, average rate 98.132 [m³/d]

Observation Well: Well 1

Static Water Level [m]: 6.54

Radial Distance to PW [m]: -

	Time [min]	Water Level [m]	Drawdown [m]
1	1	6.59	0.05
2	2	6.605	0.065
3	3	6.62	0.08
4	4	6.63	0.09
5	5	6.64	0.10
6	6	6.64	0.10
7	7	6.65	0.11
8	8	6.655	0.115
9	9	6.66	0.12
10	10	6.665	0.125
11	15	6.68	0.14
12	20	6.70	0.16
13	25	6.71	0.17
14	30	6.72	0.18
15	40	6.73	0.19
16	50	6.75	0.21
17	60	6.755	0.215
18	70	6.77	0.23
19	80	6.78	0.24
20	90	6.79	0.25
21	100	6.795	0.255
22	120	6.81	0.27
23	180	6.84	0.30
24	240	6.87	0.33
25	300	6.90	0.36
26	360	6.92	0.38
27	420	6.94	0.40
28	480	6.96	0.42
29	540	6.96	0.42
30	600	6.98	0.44
31	660	7.00	0.46
32	720	7.01	0.47
33	780	7.03	0.49
34	900	7.055	0.515
35	1020	7.075	0.535
36	1140	7.10	0.56
37	1200	7.12	0.58
38	1260	7.13	0.59
39	1320	7.145	0.605
40	1380	7.15	0.61
41	1440	7.165	0.625
42	1441	7.11	0.57
43	1442	7.085	0.545
44	1443	7.08	0.54
45	1444	7.07	0.53
46	1445	7.065	0.525



Stantec

Stantec Consulting Ltd.
600 - 4808 Ross Street
Red Deer, AB T4N 1X5
Tel. 403-341-3320

Pumping Test - Water Level Data

Project: Chinook Ridge Lodge and Golf Course

Number: 149104750

Client: Chloe Cartwright

	Time [min]	Water Level [m]	Drawdown [m]
47	1446	7.06	0.52
48	1447	7.055	0.515
49	1448	7.05	0.51
50	1449	7.045	0.505
51	1450	7.04	0.50
52	1455	7.03	0.49
53	1460	7.02	0.48
54	1465	7.01	0.47
55	1470	7.005	0.465
56	1475	7.00	0.46
57	1480	6.995	0.455
58	1490	6.99	0.45
59	1500	6.98	0.44
60	1510	6.975	0.435
61	1520	6.965	0.425
62	1530	6.96	0.42
63	1560	6.945	0.405
64	1620	6.915	0.375
65	1800	6.88	0.34
66	1980	6.81	0.27
67	2640	6.725	0.185
68	2880	6.69	0.15



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Pumping Test - Water Level Data

Project: Chinook Ridge Lodge and Golf Course

Number: 149104750

Client: Chloe Cartwright

Location: SE-31-28-3-W.5

Pumping Test: Aquifer Test

Pumping Well: Well 1

Test Conducted by: Wild Rose Water Wells Ltd.

Test Date: 11/10/2010

Discharge: variable, average rate 98.132 [m³/d]

Observation Well: Monitoring well #1

Static Water Level [m]: 7.77

Radial Distance to PW [m]: 49

	Time [min]	Water Level [m]	Drawdown [m]
1	23	7.775	0.005
2	38	7.78	0.01
3	53	7.78	0.01
4	72	7.78	0.01
5	96	7.785	0.015
6	120	7.79	0.02
7	180	7.80	0.03
8	240	7.81	0.04
9	300	7.81	0.04
10	360	7.82	0.05
11	420	7.83	0.06
12	480	7.83	0.06
13	540	7.84	0.07
14	600	7.84	0.07
15	660	7.86	0.09
16	720	7.85	0.08
17	780	7.86	0.09
18	900	7.87	0.10
19	1140	7.89	0.12
20	1200	7.90	0.13
21	1260	7.90	0.13
22	1320	7.91	0.14
23	1380	7.915	0.145
24	1440	7.915	0.145
25	1460	7.91	0.14
26	1477	7.91	0.14
27	1487	7.91	0.14
28	1500	7.905	0.135
29	1530	7.905	0.135
30	1560	7.905	0.135
31	1620	7.90	0.13
32	1800	7.90	0.13
33	1980	7.90	0.13
34	2640	7.90	0.13
35	2880	7.895	0.125



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Pumping Test - Water Level Data

Project: Chinook Ridge Lodge and Golf Course

Number: 149104750

Client: Chloe Cartwright

Location: SE-31-28-3-W.5

Pumping Test: Aquifer Test

Pumping Well: Well 1

Test Conducted by: Wild Rose Water Wells Ltd.

Test Date: 11/10/2010

Discharge: variable, average rate 98.132 [m³/d]

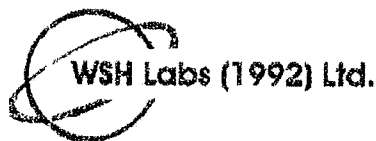
Observation Well: Monitoring well 2

Static Water Level [m]: 7.60

Radial Distance to PW [m]: 50

	Time [min]	Water Level [m]	Drawdown [m]
1	12	7.67	0.07
2	30	7.73	0.13
3	42	7.75	0.15
4	56	7.77	0.17
5	75	7.79	0.19
6	93	7.81	0.21
7	120	7.835	0.235
8	240	7.90	0.30
9	300	7.93	0.33
10	360	7.96	0.36
11	420	7.97	0.37
12	480	7.99	0.39
13	540	8.00	0.40
14	600	8.005	0.405
15	660	8.02	0.42
16	720	8.04	0.44
17	780	8.05	0.45
18	900	8.075	0.475
19	1140	8.12	0.52
20	1200	8.135	0.535
21	1260	8.145	0.545
22	1320	8.17	0.57
23	1380	8.18	0.58
24	1440	8.19	0.59
25	1453	8.13	0.53
26	1473	8.085	0.485
27	1483	8.07	0.47
28	1500	8.05	0.45
29	1530	8.03	0.43
30	1560	8.01	0.41
31	1620	7.98	0.38
32	1800	7.945	0.345
33	1980	7.89	0.29
34	2640	7.78	0.18
35	2880	7.76	0.16

Appendix D



3851B - 21 Street N.E. • Calgary, Alberta, Canada • T2E 6T5
 Phone: 403-250-9164 • Fax: 403-291-4597 • www.wshlabs.com

Wild Rose Water Well Ltd.

Box 4028
 Olds, AB T4H 1P6

Phone: (403) 556-6700 Lab Number: 66687
 Fax: (403) 556-6700
 Email: PO Number:

Sample Info: Chinook Ridge Lodge & Golf Course

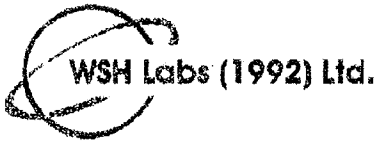
Sampled By:
 Date Sampled: 11/11/2010
 Date Received: 11/11/2010
 Date Reported: 11/24/2010

Analyte	Units	Result	Canadian Drinking Water Guideline Maximum
Calcium	mg/L	109	No Guideline
Iron	mg/L	0.03	0.3
Magnesium	mg/L	37.8	No Guideline
Manganese	mg/L	0.01	0.05
Potassium	mg/L	4.1	No Guideline
Sodium	mg/L	22	200
Bicarbonates	mg/L	511	No Guideline
Bromides	mg/L	< 0.1	No Guideline
Carbonates	mg/L	0	No Guideline
Chlorides	mg/L	4.4	250
Fluorides	mg/L	0.17	1.5
Nitrates as N	mg/L	1.2	10
Nitrites as N	mg/L	< 0.02	1
NO ₃ + NO ₂ as N	mg/L	1.2	No Guideline
Sulfates	mg/L	27	500

Parameter	Units	Result	Canadian Drinking Water Guideline Maximum
Electrical Conductivity	µS/cm	796	No Guideline
pH	pH	7.82	6.5 - 8.5
Hardness (as CaCO ₃)	mg/L	427	No Guideline
Total Alkalinity (as CaCO ₃)	mg/L	419	No Guideline
P-Alkalinity (as CaCO ₃)	mg/L	0	No Guideline
Hydroxide (as CaCO ₃)	mg/L	0	No Guideline
Total Dissolved Solids (calculated)	mg/L	457	500

Microbiology	Units	Result	Canadian Drinking Water Guideline Maximum
Total Coliform	CFU/100 mL	0	Zero / Absent
Escherichia Coliform	CFU/100 mL	0	Zero / Absent

Sum of Cations	9.59	TDS / EC Ratio	0.57
Sum of Anions	9.15	Sodium Adsorption Ratio	0.46
Ion Balance	1.05	Saturation Index	1.02



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Wild Rose Water Well Ltd.
 Box 4028
 Olds, AB T4H 1P6

Phone: (403) 556-6700 **Lab Number:** 66687
Fax: (403) 556-6700
Email: **PO Number:**

Sample Info: Chinook Ridge Lodge & Golf Course

Sampled By:
Date Sampled: 11/11/2010
Date Received: 11/11/2010
Date Reported: 11/24/2010

Trace Metals	Units	Result	Canadian Drinking Water Guideline Maximum
Boron	µg/L	29.3	5000
Aluminum	µg/L	6.2	100
Chromium	µg/L	< 0.1	50
Copper	µg/L	0.3	1000
Zinc	µg/L	1.2	5000
Arsenic	µg/L	0.4	10
Selenium	µg/L	3.4	10
Cadmium	µg/L	< 0.05	5
Antimony	µg/L	0.6	6
Barium	µg/L	149	1000
Mercury	µg/L	< 0.05	1
Lead	µg/L	< 0.1	10
Strontium	µg/L	7.1	20

Certified By:

Accredited by CALA to ISO/IEC 17025 for specific tests. The results above are related only to the items analyzed.
 < denotes less than detection limit. TNTC = Too Numerous To Count (>200 colonies)

Guidelines for Chemical Drinking Water Quality as of May 2008

Parameter	Health Guideline (mg/L)	AO (mg/L)
Aluminum	0.1	
Antimony	0.006	
Arsenic	0.010	
Barium	1	
Benzene	0.005	
Boron	5	
Bromate	0.01	
Bromodichloromethane	0.016	
Cadmium	0.005	
Chloramines (Total)	3	
Chloride		≤250
Chromium	0.05	
Colour		≤15 TCU ¹
Copper		≤1.0
Cyanide	0.2	
Cyanobacterial toxins - microcystin-LR	0.0015	
Ethylbenzene		≤0.0024
Fluoride	1.5	
Iron		≤0.3
Lead	0.01	
Manganese		≤0.05
Mercury	0.001	
Nitrate	45 (10 mg/L as N)	
Nitrite	3.2 (1 mg/L as N)	
pH		6.5 - 8.5
Selenium	0.01	
Sodium		≤200
Sulphate		≤500
Sulphide (as H ₂ S)		≤0.05
Tetrachloroethylene	0.03	
Toluene		≤0.024
Total Dissolved Solids (TDS)		≤500
Trihalomethanes (Total)	0.1	
Turbidity ^a	1.0 NTU ²	
Uranium	0.02	
Xylenes (Total)		≤0.3
Zinc		≤5.0

Guidelines for Microbiological Parameters

The MAC for *total coliforms* and *Escherichia coli*. in public, semi-public and private drinking water systems is none detectable per 100 mL. No MAC is specified for *heterotrophic plate count (HPC)* bacteria. However, increases in HPC concentrations above baseline levels are considered undesirable.

Saturation Index (SI)

Saturation Index is used to evaluate the need for corrosion control.

- (a) A positive SI indicates scaling tendencies, but non-corrosive water
- (b) A negative SI indicates non-scaling tendencies, but corrosive water

Note:

¹ TCU = True Colour Unit | MAC = Maximum Acceptable Concentration

² NTU = Nephelometric Turbidity Unit | AO = Aesthetic Objective

≤ less than or equal to | ^a Turbidity value based on slow sand or diatomaceous earth filtration.

Guidelines for Canadian Drinking Water Quality are provided courtesy of Health Canada. May 2008.

http://www.hc-sc.gc.ca/ewh-semt/alt_formats/hecs-sesc/pdf/pubs/water-eau/sum_guide-res_recom/summary-sommaire-eng.pdf