

BOP # 117

PROVINCE OF MANITOBA  
 PETROLEUM BRANCH  
  
 MAY 18 2010  
  
 VIRDEN OFFICE

**ANTLER RIVER RESOURCES LTD.**  
**BOX 115**  
**PIERSON, MB R0M 1G0**  
**(204) 634-2521 or (204) 522-3967**  
**FAX (204) 634-2522**

PROVINCE OF MANITOBA  
 PETROLEUM BRANCH  
  
 MAY 11 2010  
  
 VIRDEN OFFICE

**Re: Single Battery Operating Permit**

Find enclosed an application for the battery permit, a cheque for \$500.00 for the battery licence fee.

Attached info:            Drawing of set up for the battery  
                                  Gas analysis  
                                  Letters from land owners and residence within 1.5 KM of  
                                  proposed battery  
                                  Manufactory and all info related to Cold Water Knockout

There will be only 1 well tied into this battery – Horizontal 100/02-29-002-28WPM

There will be no flared gas as will be vented out top of test tanks

The gas volume is relatively low and a minimal amount of hydrogen sulphide as indicated by analysis

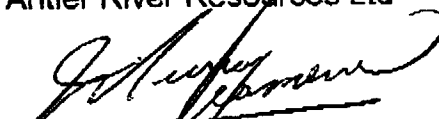
The residences are minimal in the area and no occupied buildings within 3 KM on the prevailing wind side of battery

The produced water will be trucked from the site to a disposal at Canadian Natural Resources Limited 14-09-002-29WPM

Also attached is a survey of the site, 2 copies of the schematic drawing – process flow, valve, pipes and plot drawing vessel, tanks

Hopefully we have supplies you with the info that is required, but if you are requiring anything further, please advise.

Antler River Resources Ltd

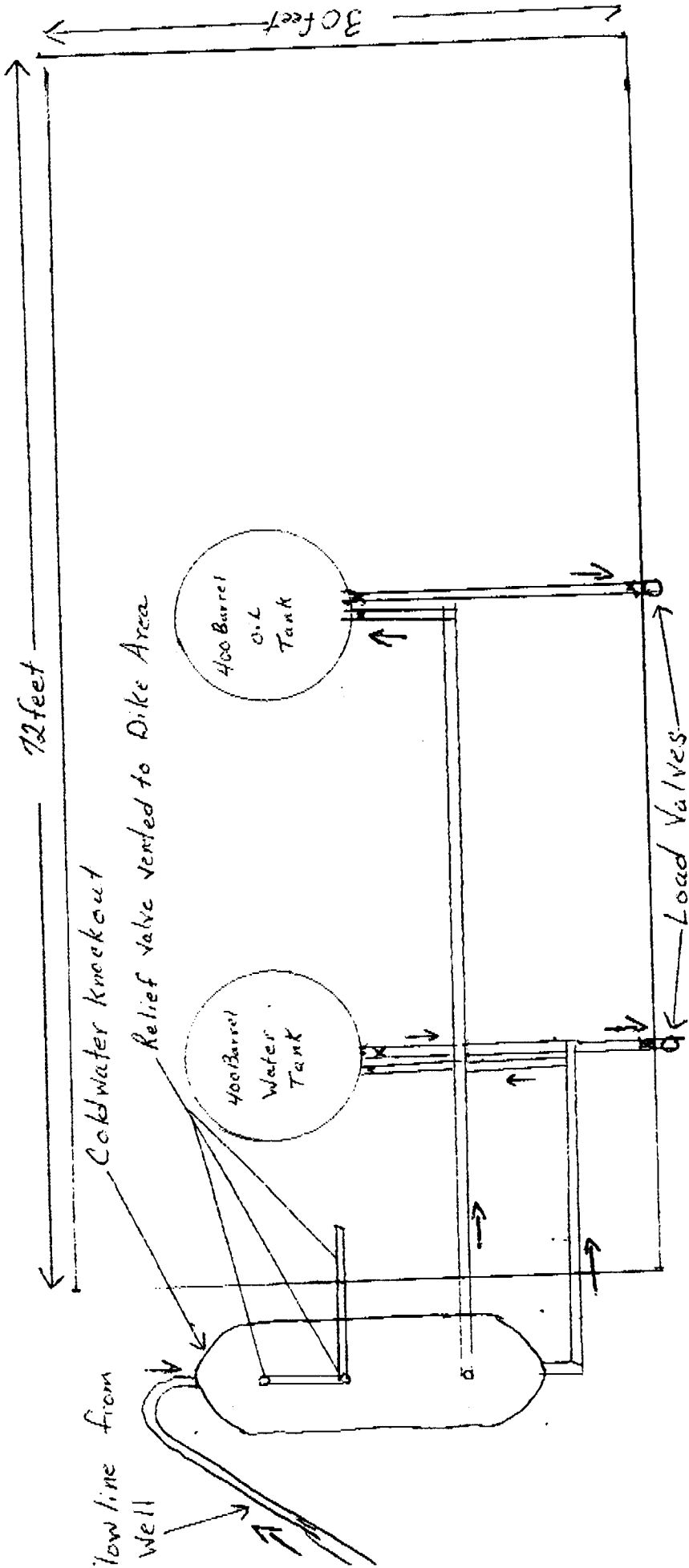


Murray Cameron, president

PROVINCE OF MANITOBA  
 PETROLEUM BRANCH  
  
 JUN 08 2010  
  
 VIRDEN OFFICE

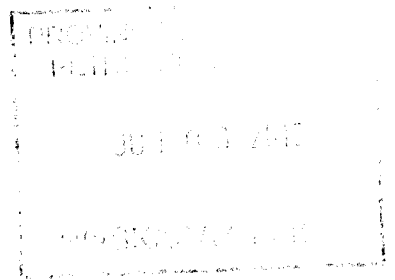
Schematic Drawing of Battery at

02-29-002-28 W P M



SCALE 1/8" = 1'00"

X - Valves

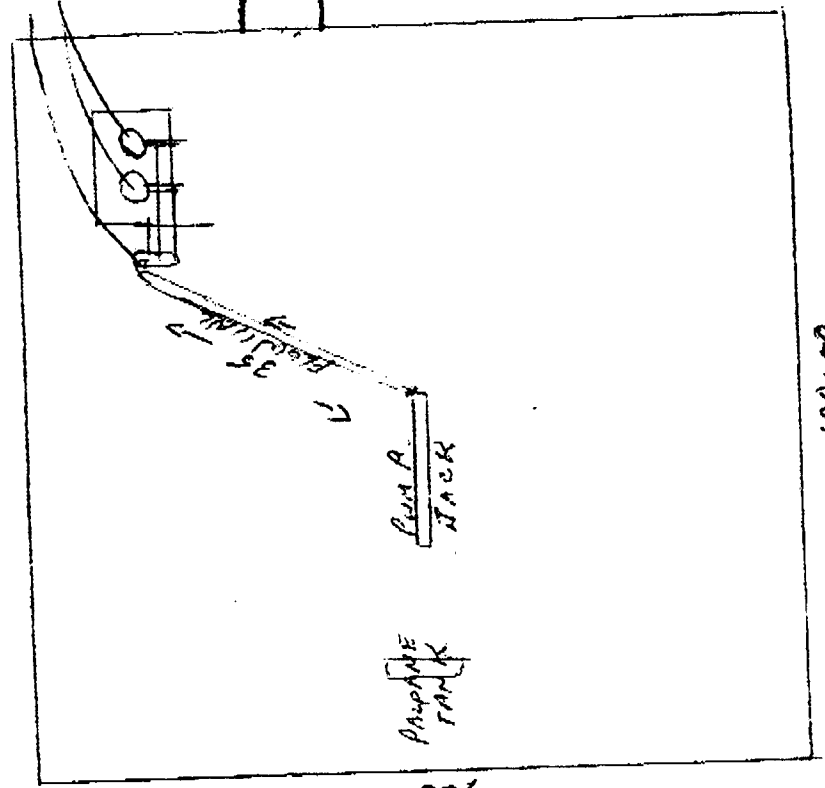


City View of LINDSAY

COLD WATER KNOCKOUT  
400 BARREL

15.69

69.95



100.00

100.00

Measurements all in meters

Not to scale



# EXTENDED GAS ANALYSIS

V0002104 - 1  
CONTAINER IDENTITY

METER ID: Antler River Resources

WELL LICENSE NUMBER: 52134-2009-3510

LABORATORY FILE NUMBER: 1

OPERATOR: Antler River Resources

100/02-29-002-28W1/00  
LOCATION (UWI)

WELL NAME: Antler River Pierson 2-29-2-28

KB ELEV (m): Pierson

GR ELEV (m): Core Lab - Estevan

FIELD OR AREA: Pierson

POOL OR ZONE: Core Lab - Estevan

SAMPLER: Core Lab - Estevan

TEST TYPE AND NO: Wellhead

TEST RECOVERY: Wellhead

POINT OF SAMPLE: PUMPING, FLOWING, GAS LIFT, SWAB

WATER: m<sup>3</sup>/d, OIL: m<sup>3</sup>/d, GAS: m<sup>3</sup>/d

TEST INTERVAL or PERFS (meters): 41, 28 @ 30 °C, 27 @ 22 °C

SEPARATOR, RESERVOIR, OTHER

CONTAINER WHEN SAMPLED

SEPARATOR, OTHER

Pressures, kPa (gauge)

Temperatures, °C

2009 08 28 DATE SAMPLED (Y/M/D)

2009 09 01 DATE RECEIVED (Y/M/D)

2009 09 10 DATE ANALYZED (Y/M/D)

TUN ANALYST

AMT. AND TYPE CUSHION

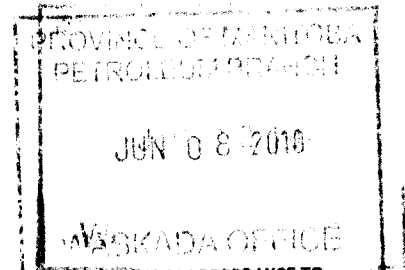
MUD RESISTIVITY

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	mL/m <sup>3</sup> AIR FREE AS RECEIVED
H <sub>2</sub>	0.0003	0.0003	
He	0.0001	0.0001	
N <sub>2</sub>	0.0372	0.0383	
CO <sub>2</sub>	0.0134	0.0000	
H <sub>2</sub> S	0.0148	0.0000	
C <sub>1</sub>	0.2715	0.2791	
C <sub>2</sub>	0.1747	0.1798	620.8
C <sub>3</sub>	0.2500	0.2573	918.7
iC <sub>4</sub>	0.0375	0.0386	163.7
C <sub>4</sub>	0.1087	0.1119	457.3
iC <sub>5</sub>	0.0265	0.0273	129.4
C <sub>5</sub>	0.0298	0.0307	144.2
C <sub>6</sub>	0.0196	0.0201	103.1
C <sub>7</sub>	0.0120	0.0123	63.7
C <sub>8</sub>	0.0020	0.0021	10.3
C <sub>9</sub>	0.0019	0.0021	10.3
C <sub>10</sub>	Trace	Trace	Trace
C <sub>11</sub>	Trace	Trace	Trace
C <sub>12+</sub>	Trace	Trace	Trace
Total	1.0000	1.0000	2,621.5

CALCULATED GROSS HEATING VALUE MJ/m <sup>3</sup> @ 15°C & 101.325 kPa (abs.)		CALCULATED VAPOR PRESSURE kPa (abs.) @ 40 °C	
78.90		80.86	
MOISTURE FREE		MOISTURE & ACID GAS FREE	
1,627 kg/m <sup>3</sup>		1,328	
DENSITY		RELATIVE DENSITY	
4378.0 kPa (abs.)		318.3 k	
pPc		pTc	
4265.8 kPa (abs.)		317.8 k	
pPc		pTc	
C <sub>7+</sub> PROPERTIES @ 15°C & 101.325 kPa		MOLE FRACTION	
756.6 kg/m <sup>3</sup>		0.0148000	
DENSITY		MOLECULAR WEIGHT	
94.1		Field	
		Tutweller	
		HYDROGEN SULPHIDE	

AROMATICS	MOLE FRACTION	NAPHTHENES	MOLE FRACTION
Benzene (C7)	0.0003	Cyclopentane (C6)	0.0029
Toluene (C8)	0.0007	Methylcyclopentane (C7)	0.0036
Ethylbenzene (C9)	0.0017	Cyclohexane (C7)	0.0026
Xylenes (C9)	Trace	Methylcyclohexane (C8)	0.0012
1,2,4 Trimethylbenzene (C10)	Trace		

REMARKS:  
 H2S determined in the field by tutweller = 1.48%  
 Client field temperature was not available.  
 Benzene Content (mole fraction) = 0.00029



NOTE: THE GROSS HEATING VALUE HAS BEEN CALCULATED IN ACCORDANCE TO AGA REPORT #5 AND ALL PROPERTIES HAVE BEEN CALCULATED UTILIZING GPA 2145 - 09 PHYSICAL CONSTANTS AND BOILING POINT GROUPING.

**ANTLER RIVER RESOURCES LTD.  
BOX 115  
PIERSON, MB R0M 1G0  
(204) 634-2521 or (204) 522-3967  
FAX (204) 634-2522**

May 13, 2009

Isabel L. McBane  
1108 4<sup>th</sup> Street NE  
Devils Lake, North Dakota 58301-2704  
U.S.A.

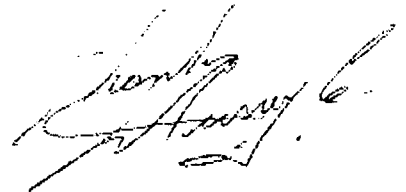
Dear Isabel,

**Request for production into cold water knockout at Antler River Resources  
Ltd. Pierson Tank battery 2-29-2-28 W1st.**

Antler River Resources Ltd. required to request approval to produce the existing well – location HZ 15-20-2-28. The production is approximately a total fluid of 18 cubes per day (5 oil and 13 water). Gas production will be vented from the production tank, as in the case of other similar wells.

The Petroleum Branch Regulations defines any well producing into vessel other than a tank as a battery. Therefore Antler River Resources Ltd. will follow the guideline to obtain battery operating permit for the above operation. As part of the application process we are required to obtain approval from all landowners and occupants within 1.5 kilometres of battery.

Antler River Resources Ltd. hereby requests your approval for the above location. If you have any questions, comments or concerns regarding this matter, please provide details on the attached page and return it in the envelope provided. I, Murray Cameron can be contacted at 204-634-2521 or 204-522-3285. If you require a copy of battery application please contact me at 204-634-2521. If you approve the above operation please so indicate by signing on the space provided below and return on signed copy in the envelope provided on or before June 15<sup>th</sup>.



# RURAL MUNICIPALITY OF EDWARD

Incorporated 1905

Box 100  
Pierson, Manitoba  
ROM 1S0

Ralph J Wang, Reeve

Audrey Bird, CAO

September 20, 2010

Antler River Resources Ltd  
PO Box 115  
Pierson, MB  
ROM 1S0

Dear Murray Cameron:

Development Permit concerning the installation of a cold water knock out on location SE 29 2 28WPM was brought forward to council on September 14, 2010 for approval. Council approved the development by resolution #169/2010 with the following condition:

That approval notification from Petroleum Branch be forwarded to the municipal office.

If there are further questions or concerns do not hesitate to call.

Yours truly,



Audrey Bird, CMMA  
Rural Municipality of Edward  
Phone: 204-634-2231  
Fax: 204-634-2479  
Email: [rmofedw@inethome.ca](mailto:rmofedw@inethome.ca)

*attachement*



# EXTENDED GAS ANALYSIS

V0002104 - 1  
CONTAINER IDENTITY

52134-2009-3510  
LABORATORY FILE NUMBER

Antler River Resources  
METER ID

Antler River Pierson 2-29-2-28  
WELL LICENSE NUMBER

100/02-29-002-28W1/00  
LOCATION (UWI)

Pierson  
FIELD OR AREA

Antler River Pierson 2-29-2-28  
WELL NAME

Core Lab - Estevan  
SAMPLER

1  
PAGE

Core Lab - Estevan  
POOL OR ZONE

KB ELEV (m) GR ELEV (m)

TEST TYPE AND NO. Wellhead TEST RECOVERY

POINT OF SAMPLE

PUMPING FLOWING GAS LIFT SWAB

WATER m³/d OIL m³/d GAS m³/d

TEST INTERVAL or PERFS (meters)

SEPARATOR RESERVOIR OTHER

41 28 @ 30 °C 27 @ 22 °C

CONTAINER WHEN SAMPLED CONTAINER WHEN RECEIVED

SEPARATOR OTHER

Pressures, kPa (gauge) Temperatures, °C

2009 08 28 DATE SAMPLED (Y/M/D)

2009 09 01 DATE RECEIVED (Y/M/D)

2009 09 10 DATE ANALYZED (Y/M/D)

TUN ANALYST

AMT. AND TYPE CUSHION @ °C

MUD RESISTIVITY

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	mL/m³ AIR FREE AS RECEIVED
H <sub>2</sub>	0.0003	0.0003	
He	0.0001	0.0001	
N <sub>2</sub>	0.0372	0.0383	
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CALCULATED GROSS HEATING VALUE MJ/m³ @ 15°C & 101.325 kPa (abs.)		CALCULATED VAPOR PRESSURE kPa (abs.) @ 40 °C	
78.90	80.86	93.5	
MOISTURE FREE		PENTANES PLUS	
CALCULATED TOTAL SAMPLE PROPERTIES (AIR=1) @ 15°C & 101.325 kPa MOISTURE FREE AS SAMPLED			
1.627 kg/m³	1.328	38.5	
DENSITY	RELATIVE DENSITY	RELATIVE MOLECULAR MASS	
CALCULATED PSEUDOCRITICAL PROPERTIES			
AS SAMPLED		ACID GAS FREE	
4378.0 kPa (abs.)	318.3 K	4265.8 kPa (abs.)	317.8 K
pPc	pTc	pPc	pTc
C <sub>7+</sub> PROPERTIES @ 15°C & 101.325 kPa		MOLE FRACTION	LOCATION
756.8 kg/m³	94.1	0.0148000	Field
DENSITY	MOLECULAR WEIGHT	HYDROGEN SULPHIDE	
AROMATICS		MOLE FRACTION	NAPHTHENES
MOLE FRACTION		MOLE FRACTION	

AROMATICS	MOLE FRACTION	NAPHTHENES	MOLE FRACTION
Benzene (C7)	0.0003	Cyclopentane (C6)	0.0029
Toluene (C8)	0.0007	Methylcyclopentane (C7)	0.0036
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REMARKS:

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ANTLER VER PIERSON HZNTL 10-20 28WPM

WELL SITE AND ACCESS ROAD

TERMINUS

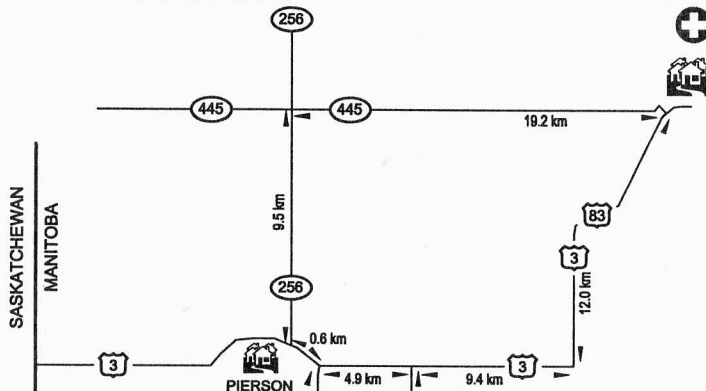
LSD. 10B - SEC. 20 - TWP. 2 - RGE. 28WPM

WELL SITE SURFACE LOCATION

LSD. 2B - SEC. 29 - TWP. 2 - RGE. 28WPM

R.M. of EDWARD

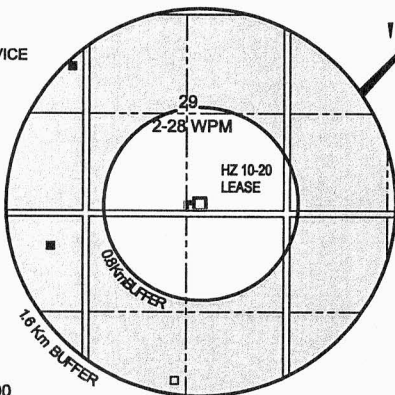
MELITA



ROUTE MAP  
NOT TO SCALE

LEGEND

- HOSPITAL
- LIFE FLIGHT EMERGENCY SERVICE
- SECONDARY HIGHWAY
- PRIMARY HIGHWAY
- MUNICIPAL ROAD
- TRANSCANADA HIGHWAY



RESIDENCE SKETCH

- RESIDENCE
- ABANDONED RESIDENCE

LEGEND:

Distances are in metres. SCALE: 1:5000

Portions referred to shown thus:

- Legal Survey Posts (found / placed)
- Planted Wood Hub
- Fence Lines
- Oil / Gas Lines
- Overhead Power Lines
- Buried Power Cables
- Buried Telecom Cables
- Bush
- Low Area / Slough
- Water Covered Area

- Surveyed Well Centre
- Standing Well
- Producer
- Abandoned Producer
- Abandoned Dry
- Injection Well
- Injection Well (Former Producer)
- Abandoned Water Injection
- Abandoned Water Injection (Former Producer)
- Salt Water Disposal
- Salt Water Disposal (Former Producer)
- Abandoned Salt Water Disposal
- Abd. Salt Water Disposal (Former Prod.)
- Dual Completion
- Abandoned Dual Completion
- Junked and Abandoned
- Surface Location - Horizontal / Directional / Slant
- Water Supply Well
- Abandoned Water Supply Well
- Abandoned Structure Test Hole

OPERATOR:

ANTLER RIVER RESOURCES LTD.



WELL LICENCE INFORMATION

THE PROPOSED WELL CENTRE IS:

- |  |                                     |                          |
|--|-------------------------------------|--------------------------|
|  | YES                                 | NO                       |
| - At least 1.5 km from the Corporate Limits of a City, Town or Village | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| - At least 75m from any shoreline                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| - At least 75m from any Surface Improvements                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| - At least 45m from any surveyed road                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| - At least 75m from any aircraft runway or taxiway                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| - At least 75m from any water well                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| - Approximately 5.6 km from the nearest urban centre (Pierson)         | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| - Approximately 1.3 Km from the nearest residence (NE¼ 19-2-28)        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

FACILITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL PURPOSES ONLY. PRIOR TO ANY CONSTRUCTION ON LEASE OR ACCESS ROAD, ANTLER RIVER RESOURCES LTD., MTS COMMUNICATIONS INC., MANITOBA HYDRO, AND MANITOBA HYDRO-GAS OPERATIONS MUST BE CONTACTED FOR LOCATION OF ANY UNDERGROUND FACILITIES THAT MAY EXIST.

There are no surface or underground improvements within 76m of well centres except as shown. OTHER FACILITIES MAY EXIST, OF WHICH WE WERE UNAWARE OF OR UNABLE TO LOCATE.



Client File: N/A  
NTS SHEET: 62 F/3

All distances shown are horizontal and at ground level.

All bearings are NAD 83 (Zone 14) UTM grid bearings.  
The Combined Scale Factor derived is 0.999844

FIELD BOOK  
V29  
PAGE(S)  
N/A

Surveyed by: JW  
Drafted by: AJW  
Checked by: JH

0	FEB 5, 2009	ISSUED	AJW	JH
No.	DATE	DESCRIPTION	DWN	CKD

7 8

Fd. 0.025  
Sq. I.B.

30.175



ALLOWANCE

ROAD

(GRAVEL)

GOVERNMENT

OVERHEAD  
POWERLINES

ALLOWANCE

ROAD

(GRAVEL)

GOVERNMENT

ALLOWANCE

ROAD

30.175

Fd. 0.025

836.811

AZ = 1° 38' 40"

805.807

AZ = 1° 42' 20"

ANTLER RIVER PIERSON HZNTL 10-20-2-28WPM  
WELL SITE AND ACCESS ROAD

7  
2

7 8  
2 1

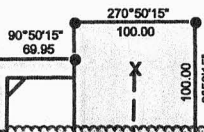
8  
1

1/4 LINE

DECIDUOUS TREE ROW

2-29

ROLLING  
CROPLAND



DECIDUOUS TREE ROW

2 1

30.175 GOVT (TRAIL) 805.042 ROAD ALLOWANCE 30.175

Fd. 0.025  
Sq. I.B.

EXISTING  
APPROACH

AZ = 90° 50' 15"

Fd. 0.025  
Sq. I.B.

SIGHT LINES  
0.8 Km ± 0.8 Km ±

181°40'35"

167.12

110.00

84.91

100m HARD  
BOUNDARY

120.00

81.88

15-20

15 16  
10 9

15  
10

16  
9

1/4 LINE

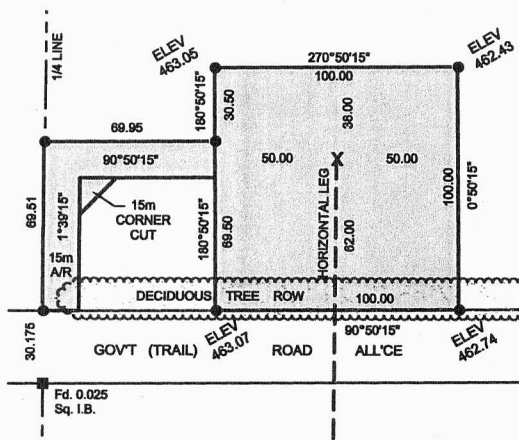
599.22

181°40'35"

120.00

100m HARD  
BOUNDARY

110.00



DETAIL 1:2500

**SURFACE  
(2B-29)**

LOCAL CO-ORDINATES  
62.00 N of S }  
684.97 W of E } Sec 29

UTM CO-ORDINATES (NAD 83)  
5446223.896 N }  
340097.415 E } CSRS

UTM CO-ORDINATES (NAD 27)  
5446002.486 N }  
340124.282 E } CSRS

LATITUDE / LONGITUDE(LL83)  
49°08'52.815" }  
101°11'33.933" } CSRS

**CASING POINT  
(15C-20)**

LOCAL CO-ORDINATES  
94.91 S of N }  
685.07 W of E } Sec 20

UTM CO-ORDINATES (NAD 83)  
5446036.903 N }  
340091.844 E } CSRS

UTM CO-ORDINATES (NAD 27)  
5445815.483 N }  
340118.704 E } CSRS

LATITUDE / LONGITUDE(LL83)  
49°08'46.759" }  
101°11'33.940" } CSRS

**BOTTOM HOLE  
(10B-20)**

LOCAL CO-ORDINATES  
694.14 S of N }  
684.76 W of E } Sec 20

UTM CO-ORDINATES (NAD 83)  
5445438.041 N }  
340074.318 E } CSRS

UTM CO-ORDINATES (NAD 27)  
5445216.589 N }  
340101.154 E } CSRS

LATITUDE / LONGITUDE(LL83)  
49°08'27.364" }  
101°11'33.949" } CSRS

Note:  
All distances are cartesian referenced to the  
UTM GRID, NAD 83, ZONE 14

Casing Point is  
187.02 South  
5.57 West } of surface location

Bottom Hole is  
785.98 South  
23.10 West } of surface location

Vertical 15-20 is  
294.42 South  
73.26 East } of surface location

**WELL CENTRE ELEVATION: 462.60**

Elevations shown are in Geodetic Datum  
from the Province of Manitoba Mon.  
#82R759

**CERTIFICATE OF TITLE**

SE¼ 29-6-28 CT No. 1614785  
(PARCEL TWO)

**AREAS:**

WELL SITE	1.000 ha	2.47 ac
ACCESS ROAD	0.198 ha	0.49 ac
<b>TOTAL</b>	<b>1.198 ha</b>	<b>2.96 ac</b>

I certify that the survey represented by this plan is  
correct to the best of my knowledge and was  
completed on the 2nd day of Feb, 2009.

*Ken Baley*  
MANITOBA LAND SURVEYOR

*Chanelle Colest*  
Witness