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November 6, 2012
2196-12-001

Matthew Arnill
West-Can Seal Coating Inc.
Box 669, 2317 16 St.
Didsbury, Alberta
T0M 0W0

Dear Mr. Arnill:

**RE: HYDROGEOLOGICAL BACKGROUND REVIEW
PROPOSED GRAVEL PIT, SE-35-032-06 W5M, NEAR SUNDRE, ALBERTA**

INTRODUCTION

Waterline Resources Inc. (Waterline) was retained by West-Can Seal Coating Inc. (West-Can) to conduct a background review of available hydrogeological information for the area of a proposed gravel pit at SE-35-032-06 W5M (the site), approximately 5 km southwest of Sundre, Alberta. The site location is shown on Figure 1. The objective of this background review was to provide an understanding of the hydrogeological setting of the site based on existing regional and local information including: climate, topography and drainage, neighbouring land uses, regional geology and hydrogeology, existing water users, and previous investigations of the site. This background review does not represent a regulatory compliance requirement and was completed for due diligence purposes.

CLIMATE

Based on climate normals for 1971 to 2000 at the closest weather station to the site in Olds, Alberta (Environment Canada, 2012), the climate in the area is characterized by the following conditions:

- Average daily temperatures of 3.1°C;
- Average daily temperatures above 0°C from April to October each year;
- An average of 494.9 mm of precipitation falls each year; and,
- Approximately 80% of the average annual precipitation falls during the non-freezing period of the year.

The average annual calculated lake evaporation in the Sundre region ranges between 625 and 650 mm (AENV, 2005), suggesting that evaporation from surface water bodies may exceed the addition of water into the hydrogeological system by precipitation in the area.

TOPOGRAPHY AND DRAINAGE

Regional topography is relatively flat and slopes to the northeast/east, towards the Red Deer River near Sundre, Alberta. Ephemeral swales exist in the area, including on the site, and are likely dry for the majority of the year based on a review of available aerial photographs. The closest permanent water body is the Red Deer River, which is located approximately 2 km to the south and 6 km to the east of the site. Bearberry Creek is located approximately 2.3 km northeast of the site.

NEIGHBOURING PROPERTIES AND LAND USES

The proposed development site is located in SE-35-032-06 W5M, excluding a lot in the northeast corner of the site quarter section. An aerial photograph of surrounding land uses provided by Berko Services Ltd. (Berko) is included in Attachment 1. The site is currently undeveloped, but a portion appears to have been previously developed as a gravel pit (Douglas Ross Pit). Based on a review of aerial photographs, the closest residences to the site are located (Abacus, 2012): in the northeast corner of the site quarter section; 550 m northwest of the site; 725 m northeast of the site; and 1.2 km east of the site. Numerous residences exist south of the site quarter section in an area subdivided for acreages in N½-26-032-06 W5M and NW-25-032-06 W5M; the closest residence to the south of the site is 80 m from the southern boundary of the site. Three existing gravel pits are present in the area: one directly north, another approximately 200 m northeast, and one 850 m east of the site. Areas not developed for residential or industrial use are assumed to be used for agricultural purposes.

GEOLOGY AND HYDROGEOLOGY

Available regional interpretations provide the following details related to local geologic and hydrogeologic conditions:

- The surficial geology (overburden) is comprised of clean, glaciofluvial deposits that are regionally extensive and comprised of gravel and sand with minor silt beds that range in thickness from 10 to 30 m in the vicinity of the site (Shetsen, 1987; HCL, 2000);
- From the site, the overburden glaciofluvial gravel and sand deposit extends south and east to the Red Deer River (approximately 2.3 km and 6 km, respectively), north to Bearberry Creek (approximately 2 km), and greater than 5 km to the west (Figure 1) (Budney et al., 2004);
- The overburden-bedrock contact is estimated to be approximately 24 metres below ground level (mbgl) within the site section (Attachment 2) (TGWC, 2012);
- The bedrock underlying the site is the Dalehurst Member of the Paskapoo Formation, which consists of sandstone, siltstone, shale, and coal (Ozoray and Barnes, 1977; TGWC, 2012);
- Horizontal groundwater flow within the overburden is mapped to the northeast/east in the area of the site, consistent with regional topography (HCL, 2000);

- Vertical groundwater flow appears to be downward within the overburden and upward from the bedrock into the overburden (HCL, 2000); and,
- Total dissolved solids (TDS) concentrations in the groundwater are typically less than 500 mg/L, indicating relatively fresh groundwater (HCL, 2000).

The regional interpretations of the overburden are consistent with data obtained during test pitting activities completed by Berko for aggregate exploration at the site. The test pitting data suggests that the geology of the site is generally characterized by 0 to 0.15 m of topsoil underlain by 0 to 0.75 m of silt, followed by gravel and/or sand to the maximum investigation depth of approximately 4.5 mbgl. Grain size analyses of sediments collected at the site indicate that the soil type is a sandy gravel with trace clay and silt. Bedrock was not encountered during test pitting.

During excavation, groundwater was encountered at depths ranging from 0.8 to 3.9 mbgl, with an average depth to groundwater of 3.2 mbgl.

A search of water well records for wells within a 1.6 km radius of the site was conducted to identify local geological conditions based on water well driller's reports (AESRD, 2012a). Consistent with regional interpretations, the available geological descriptions provided on the driller's reports for wells within a 1.6 km search radius of the site indicated 5 to 29 m of sand and gravel, with occasional clay intervals, underlain by bedrock comprised of alternating sandstone and shale (AESRD, 2012a).

Three water chemistry records associated with the water well records were also available for wells completed at depths between 4.9 and 14.3 mbgl within the 1.6 km search radius (Well Records 415735, 415738, and 415879; Attachment 3). Based on the reported total depths for these records, these wells are likely installed in the overburden. The TDS concentrations ranged from 247 to 300 mg/L, indicating the groundwater was fresh which is consistent with regional data. Based on the major ion concentrations, the groundwater would be classified as a calcium bicarbonate type. Total hardness ranged from 221 to 264 mg/L, indicating that the water is very hard. The pH ranged from 7.9 to 8.4, indicating slightly basic conditions. None of the analyzed parameters exceeded the Guidelines for Canadian Drinking Water Quality (Health Canada, 2012).

EXISTING WATER USAGE

A search of water well records for wells within a 1.6 km radius of the site was conducted to better assess the existing groundwater usage (AESRD, 2012a). The results of this search are summarized in Attachment 3 and indicated the following:

- A total of 61 water well records were identified, with depths ranging from 4.9 to 56.4 mbgl, and an average depth of 18.9 mbgl.
- Well uses included domestic, domestic and stock, and stock.

- The majority of water wells within a 1.6 km radius of the site are screened within the sand and/or gravel overburden.
- Reported static water levels ranged from 0 to 21.8 mbgl, with an average depth of 11.4 mbgl.
- Reported individual well yields for the well records within the search radius ranged from 11 to 273 L/min.
- One water well was identified within the site quarter section and has a reported total depth of 48.8 mbgl (Record 499487). This well was screened in sandstone and shale at a depth of 36.6 to 48.8 mbgl.

A search of approvals, licences and registrations was completed (AENV, 2012b) to identify potential groundwater and surface water users or other industrial activities within approximately 1.6 km of the site. A copy of the approval record search results is included in Attachment 4. The search identified other aggregate extraction activities, including:

- A cancelled approval for the Nielsen Pit held by Dar-Car Trucking Ltd. within the site section (Document 00015496-00-00);
- Two expired approvals for the Douglas Ross Pit held by Douglas Ross within the site section (Documents 00015258-00-00 and 00015258-00-01);
- An active approval for the Saunders Pit held by Duane Saunders within the site section (Document 00252378-00-00); and,
- Active approvals for the McDougall Pit held by Mountain View County (Document 00015708-03-00), and a licence under the Water Act for the Allison Pit and an approval held by Tanas Concrete Industries Ltd. within 36-032-06 W5M.

Potential water users identified in the approval search include:

- A registration under the Water Act held by Ruth Orr within the site section (Document 00172969-00-00);
- A licence under the Water Act for an injection well held by Rocanda Enterprises Ltd. within the site section and expiring on February 2, 2013 (Document 00304903-00-00);
- A registration under the Water Act for John and Donna Boulton in 25-32-06 W5M (Document 00169630-00-00);
- Registrations under the Water Act for Glen and Anne Allison in 36-32-06 W5M (00174169-00-00) and Geiger Harland (00178261-00-00); and,
- A registration under the Water Act held by N&P Shierman in 02-33-06 W5M (Document 00168161-00-00).

The results suggest that there are numerous water well users, several registered water users, and a number of industrial water users within 1.6 km of the site.

SUMMARY

The following can be summarized from Waterline's review of available background information:

- The closest permanent, natural surface water body to the site is the Red Deer River, located approximately 2 km south of the site;
- The overburden in the area and at the site is characterized by topsoil and silt ranging in thickness from 0 to 0.9 m underlain by approximately 5 to 29 m of sand and/or gravel, followed by alternating sandstone and shale bedrock of the Paskapoo Formation;
- The sand and/or gravel overburden beneath the site is regionally extensive;
- Regional horizontal groundwater flow in the overburden is regionally mapped to the northeast/east in the area, consistent with regional topography;
- Vertical groundwater flow appears to be downward within the overburden and upward from the bedrock to the overburden;
- Groundwater quality within the overburden meets the Guidelines for Canadian Drinking Water Quality at water wells in the vicinity of the site;
- There are numerous water wells (potentially up to 61 or possibly more) within a 1.6 km radius of the site with the majority exploiting the sand and gravel overburden for their water supplies; and,
- There are several registered water users and at least two gravel pits that may use groundwater in close proximity to the site.

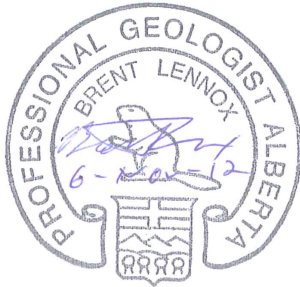
CLOSURE

The results and this letter were compiled exclusively for West-Can Seal Coating Inc. and present the results of the background hydrogeological review. This work was carried out in accordance with the scope of work for this project and accepted environmental assessment practices. No other warranty, expressed or implied, is made as to the professional services provided to the client. Any use which a third party makes of this report, or any reliance on or decisions to be made based upon it, are the responsibility of such third parties. Waterline accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this effort.

Waterline trusts that this letter satisfies your immediate needs. Please contact the undersigned if you wish to discuss any aspect of this project.

Respectfully submitted,

Waterline Resources Inc.
APEGA Permit To Practice No. P07329



Brent Lennox, P. Geol.
Intermediate Hydrogeologist

A handwritten signature in blue ink, appearing to read "Jan Michaelian". The signature is fluid and cursive, written over a light blue horizontal line.

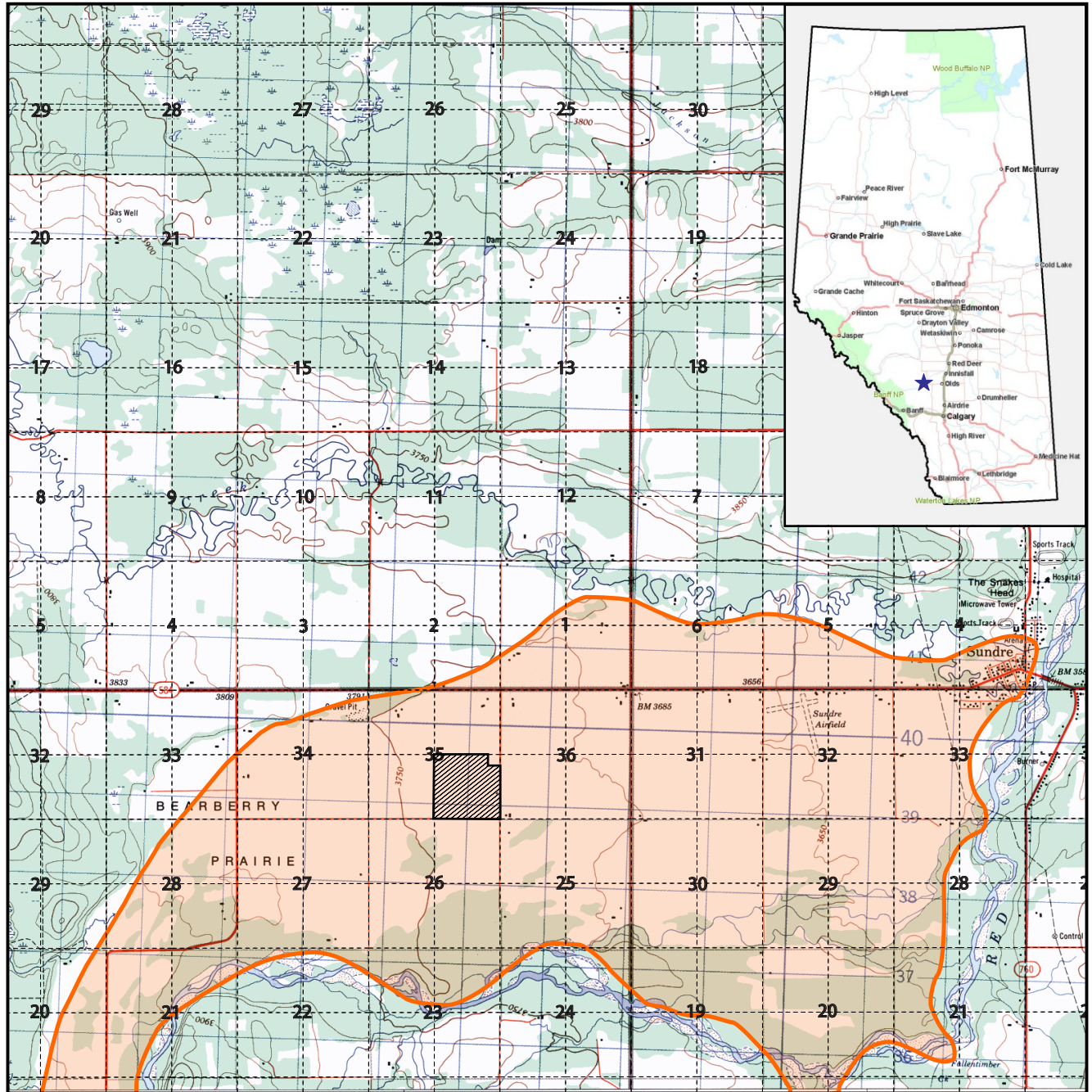
Jan Michaelian, P. Geol.
Senior Hydrogeologist

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- Ozoray, G.F., Barnes, R., 1977. Hydrogeology of the Calgary-Golden Area, Alberta. Alberta Research Council, Report 77-2.
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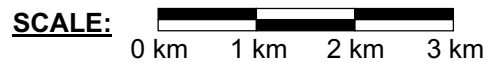
ATTACHMENTS

- Figure 1 – Location Plan
- Attachment 1 – Surrounding Land Use (Berko, 2012)
- Attachment 2 – Groundwater Potential
- Attachment 3 – Water Well Records
- Attachment 4 – Approval Search Records






Twp 33
Twp 32

MAP REFERENCE: 1 : 50 000, 82 O/15 (ETOPO)

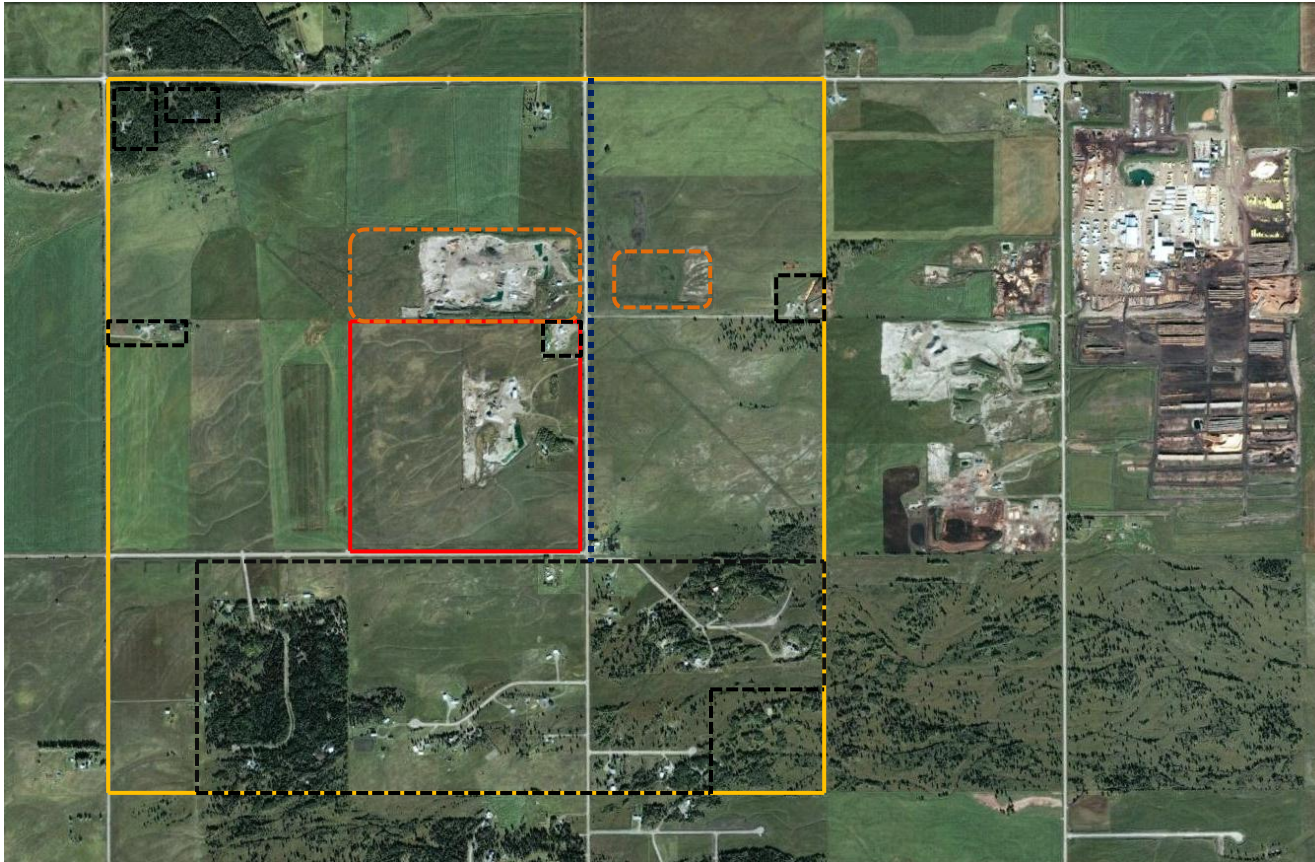


LEGEND:

-  APPROXIMATE SITE LOCATION
-  EXTENT OF CLEAN GRAVEL HORIZON (BUDNEY ET AL., 2004)

PROJECT	West-Can Seal Coating Inc. Water Licensing SE-35-032-06 W5M, near Sundre, Alberta					
TITLE	LOCATION PLAN					
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">PREPARED BY: Waterline Resources Inc.</td> </tr> <tr> <td style="padding: 2px;">PROJECT: 2196-12-001</td> </tr> <tr> <td style="padding: 2px;">COMPILED BY: CGD</td> </tr> <tr> <td style="padding: 2px;">DATE ISSUED: October 2012</td> </tr> <tr> <td style="padding: 2px;">REVISED: -</td> </tr> </table>	PREPARED BY: Waterline Resources Inc.	PROJECT: 2196-12-001	COMPILED BY: CGD	DATE ISSUED: October 2012	REVISED: -
PREPARED BY: Waterline Resources Inc.						
PROJECT: 2196-12-001						
COMPILED BY: CGD						
DATE ISSUED: October 2012						
REVISED: -						
FIGURE 1						

SURROUNDING LAND USE (REVISED OCTOBER 2ND 2012)



- RED LINES INDICATE THE SUBJECT PROPERTY (ROSS GRAVEL PIT)
- YELLOW LINES INDICATE THE EXTENT OF MUNICIPAL REQUIREMENT FOR “SURROUNDING LANDS”
- BLACK LINES INDICATE CURRENT COUNTRY RESIDENTIAL/ACREAGE LANDS
- ORANGE LINES INDICATE EXISTING GRAVEL PITS WITHIN PERIMETER AREA
- BLUE LINE INDICATES RANGE ROAD 6-1 (HAUL ACCESS TO PROVINCIAL HWY 584)

Mountain View County

.. 35-032-06 W5M

MOW-TECH LTD. gwQuery Results

[View Regional Groundwater Assessment Report \(PDF\)](#)

[gwQuery Results - Metric \(PDF\)](#) :: [gwQuery Results - Imperial \(PDF\)](#)

General Results Depth(s)	Top metre	Yield* m ³ /day	NPWL metre	TDS mg/L	Sulfate mg/L	Chloride mg/L	Fluid Expected
gwQuery Determined Minimum	13	--	--	334	47	2	--
gwQuery Determined Maximum	24	104 ²	10	285	31	5	--

Detailed Results Geologic Unit Encountered	Top metre	Yield* m ³ /day	NPWL metre	TDS mg/L	Sulfate mg/L	Chloride mg/L	Fluid Expected
Upper Surficial Deposits	--	--	--	334	47	2	--
Bedrock Surface	24						
Dalehurst Member	24	104 ²	10	285	31	5	--
Lacombe Member	278	201 ²	170	498	--	13	Water
Haynes Member	527	--	--	--	--	--	--
Upper Scollard Formation	587	--	--	--	--	--	--

Parameter	metre
Base of Groundwater Protection [Depth]	198
Ground Elevation [AMSL]	1137

Legend/Notes

'--' indicates information not available.

Base of Groundwater Protection (BGP: TDS > 4,000 mg/L).

* Yield based on the 'Fluid Encountered' being water.

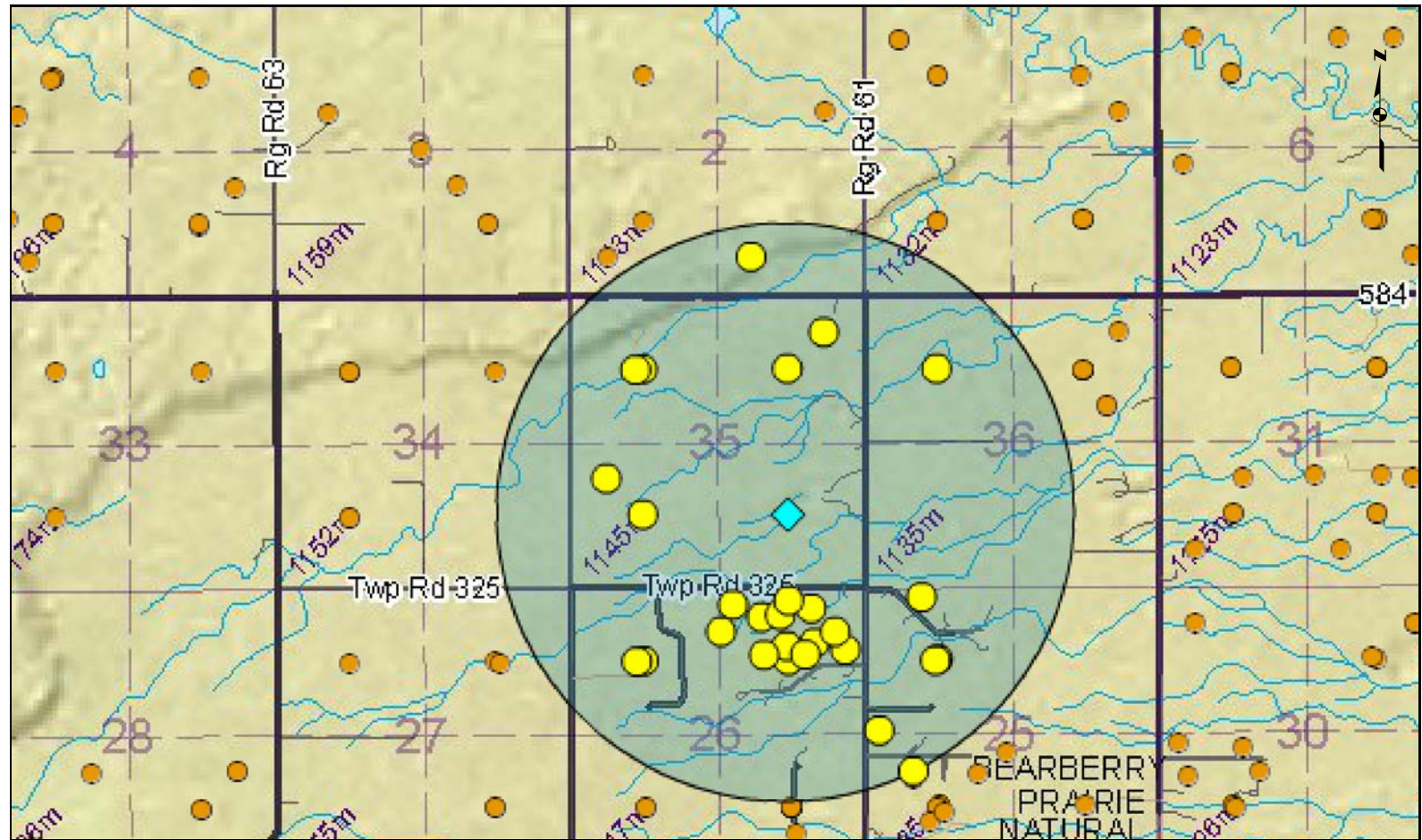
² Results are based on a regional groundwater study by [hydrogeological consultants ltd. \(HCL\)](#)

³ Results are based on a summary of Drill Stem Test (DST) results.

Contact at least three local licensed water well drillers to get estimates of drilling and water well completion costs in your area. Consult the 'Water Wells that Last for Generations' booklet for advice on hiring a water well driller, and for a check list of items that you and the driller should discuss and agree to before starting the work.

The information calculated with the MOW-TECH LTD. gwQuery is meant only as a guide. Actual drilling conditions may vary. MOW-TECH LTD. is not liable for drilling or groundwater problems as a result of using these data.

MV19756 {00-164}



Legend

- Groundwater Well
 - Selected Groundwater Well
 - Selection or Drawing area
- Search Radius = 1.6 km**

Information as depicted is subject to change, therefore the Government of Alberta assumes no responsibility for discrepancies at time of use.

Base Data provided by Spatial Data Warehouse Ltd.

Road Network data provided by GeoBase®

Alberta Environment

© 2009 Government of Alberta

Groundwater Information Centre Map		
Projection ALBERTA 10TM	Datum NAD 83	Date 2012-Nov-01
http://www.envinfo.gov.ab.ca/GroundWater/#		

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

Well ID	LSD	SEC	TWP	RGE	M	DRILLING COMPANY	DATE COMPLETED	DEPTH (m)	TYPE OF WORK	USE	CHM	LT	PT	WELL OWNER	STATIC LEVEL (m)	TEST RATE (L/min)
340425	NW	26	032	06	5	ALKEN BASIN DRILLING LTD.	2002-06-05	11.58	New Well	Domestic		2	5	FRANKHAUSEN, MARK/TAMMY	5.49	136.38
353159	NW	36	032	06	5	WICKENS WATERWELL DRILLING CO. LTD.	1990-10-20	26.21	New Well	Domestic & Stock		8		ALLISON, GLEN	4.57	181.84
359669	12	25	032	06	5	RANKIN DRILLING	1991-08-13	7.62	New Well	Domestic		4		LAMBERT, H.E.	3.35	36.37
364856	NW	26	032	06	5	M.E. LAWSON WATER WELLS	1989-08-09	8.53	New Well	Domestic		1		STAUFFER, K.J.	4.27	31.82
366352	NE	26	032	06	5	M.E. LAWSON WATER WELLS	1992-09-23	18.29	New Well	Domestic		3		WEST, FRED	3.96	81.83
367007	NW	26	032	06	5	UNKNOWN DRILLER		7.62	Chemistry	Domestic				LESTER, CHRISTINA		
415678	NW	25	032	06	5	M.E. LAWSON WATER WELLS	1978-09-04	9.14	New Well	Unknown		1		MCINTYRE, EMILY	3.66	36.37
415730	NW	26	032	06	5	M.E. LAWSON WATER WELLS	1978-05-11	9.14	New Well	Domestic & Stock		2		HOFFINGER	3.66	68.19
415732	NW	26	032	06	5	LAWSON	1987-06-18	7.62	New Well	Domestic & Stock		1		STAUFFER, KEN	3.96	36.37
415735	NE	26	032	06	5	UNKNOWN DRILLER		4.88	Chemistry	Domestic	1			PACKER, TOM		
415737	NE	26	032	06	5	M.E. LAWSON WATER WELLS	1982-07-31	9.14	New Well	Stock		1		MINOR, C.E.	3.96	36.37
415738	NE	26	032	06	5	UNKNOWN DRILLER		14.33	Chemistry	Domestic	1			GOODWIN, BOB		
415742	NE	26	032	06	5	M.E. LAWSON WATER WELLS	1978-08-30	9.14	New Well	Domestic & Stock		2		CROUCH, GORDON	3.66	54.55
415859	SW	35	032	06	5	M.E. LAWSON WATER WELLS	1974-09-07	12.19	New Well	Stock		1		BAUMAN	3.35	54.55
415861	NW	35	032	06	5	DOERING DRILLING LTD.	1984-04-18	27.13	New Well	Domestic		3		NIELSON, J.	19.81	
415866	NW	35	032	06	5	DOERING DRILLING LTD.	1988-07-18	56.39	New Well	Domestic & Stock		9		NIELSON, JAMES	21.79	11.37
415874	NE	35	032	06	5	M.E. LAWSON WATER WELLS	1962-05-04	12.19	New Well	Domestic		1		NEILSON, C.P.	5.18	18.18
415877	NE	35	032	06	5	FORESTER, AUGUST R.	1977-11-11	10.67	New Well	Stock		1		PECK, FRANK E	0.00	22.73
415879	16	35	032	06	5	UNKNOWN DRILLER		6.71	Chemistry	Domestic	1			PECK, FRANK		
417206	02	02	033	06	5	M.E. LAWSON WATER WELLS	1977-10-11	8.53	New Well	Domestic		2		VOLLMIN, VERLA	5.49	31.82
458854	NE	35	032	06	5	AARON DRILLING INC.	2001-04-11	24.38	Test Hole	Domestic		2		HUNT OIL#TH1	4.57	90.92
458855	NE	35	032	06	5	AARON DRILLING INC.	2001-04-10	28.96	Test Hole	Domestic		3		HUNT OIL#TH2	4.57	90.92
466206	16	26	32	6	5	RANKIN DRILLING	1996-06-26	12.50	New Well	Domestic		4	1	ELLITHORPE, LARRY	2.44	45.46
466207	NE	26	032	06	5	ALKEN BASIN DRILLING LTD.	1996-07-03	19.20	New Well	Domestic		3	10	JAYCOCK, DARREL	3.35	272.77
466263	NE	26	032	06	5	ALKEN BASIN DRILLING LTD.	1996-11-14	21.34	New Well	Domestic		4	10	MCTAGGART, BRIAN	5.49	227.30
467276	NW	25	032	06	5	ALKEN BASIN DRILLING LTD.	1997-06-24	12.19	New Well	Domestic		6	11	PARKIN, DWAYNE	3.66	204.57
467277	NW	25	032	06	5	ALKEN BASIN DRILLING LTD.	1997-06-10	18.59	New Well	Domestic		6	12	WALDROFF, LES	4.27	272.77

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

Well ID	LSD	SEC	TWP	RGE	M	DRILLING COMPANY	DATE COMPLETED	DEPTH (m)	TYPE OF WORK	USE	CHM	LT	PT	WELL OWNER	STATIC LEVEL (m)	TEST RATE (L/min)
468522	NE	26	032	06	5	ALKEN BASIN DRILLING LTD.	1997-09-18	12.19	New Well	Domestic		2	8	MCNAB, LARRY/SHARI	4.88	68.19
469417	NW	25	032	06	5	ALKEN BASIN DRILLING LTD.	1998-05-07	17.68	New Well	Domestic		3	5	EVANOCHKO, LORNA	3.96	90.92
469418	NW	25	032	06	5	ALKEN BASIN DRILLING LTD.	1998-03-27	16.76	New Well	Domestic		5	9	HARNDEN, GREG	4.27	227.30
469419	NE	26	032	06	5	ALKEN BASIN DRILLING LTD.	1998-04-20	15.24	New Well	Domestic		5	10	DUKE, TIM	3.35	227.30
469421	05	35	032	06	5	ALKEN BASIN DRILLING LTD.	1998-04-20	20.12	New Well	Domestic		5	12	BOUCHARD, LAWRENCE	6.10	181.84
491316	NE	26	032	06	5	M.E. LAWSON WATER WELLS	1998-07-31	17.68	New Well	Domestic		1	9	PIERUNEK, PAUL	2.13	40.91
491461	NE	26	032	06	5	ALKEN BASIN DRILLING LTD.	1999-04-22	18.29	New Well	Domestic		1	2	CROUCH, GORDON	5.49	181.84
491462	NW	26	032	06	5	ALKEN BASIN DRILLING LTD.	1999-04-19	35.05	New Well	Domestic		11	11	SOMERS, DON	6.71	272.77
491463	NE	26	032	06	5	ALKEN BASIN DRILLING LTD.	1999-03-16	15.85	New Well	Domestic		5	9	DOUBLE J WELDING INC	5.18	159.11
493021	NW	25	032	06	5	ALKEN BASIN DRILLING LTD.	1999-07-29	15.24	New Well	Domestic		3	3	BREWSTER, WILLIAM	3.35	181.84
496592	NW	26	032	06	5	ALKEN BASIN DRILLING LTD.	2000-08-25	36.58	New Well	Domestic		10	15	HARRIS, PAUL	4.27	31.82
498476	NW	26	032	06	5	ALKEN BASIN DRILLING LTD.	2001-05-30	12.19	New Well	Domestic		1	6	HAMILTON, DAVE	4.27	136.38
499487	SE	35	032	06	5	ALKEN BASIN DRILLING LTD.	2001-10-16	48.77	New Well	Domestic		8	14	OUR CAN CO	6.71	68.19
1060305	NW	25	032	06	5	ALKEN BASIN DRILLING LTD.	2004-04-12	18.29	New Well	Domestic		5	4	SMITH, JOHN M.	3.96	272.77
1060305	NW	25	032	06	5	ALKEN BASIN DRILLING LTD.	2004-07-09	48.77	Deepened	Domestic		13	11	SMITH, JOHN M.	3.66	136.38
1060542	NW	26	032	06	5	ALKEN BASIN DRILLING LTD.	2003-05-01	18.59	New Well	Domestic		4	13	WORKS, DWAYNE	6.10	181.84
1064120	NW	35	032	06	5	ALKEN BASIN DRILLING LTD.	2004-08-26	42.67	New Well	Domestic		11	25	NIELSON, KAREN	3.05	181.84
1065024	13	25	32	6	5	ALKEN BASIN DRILLING LTD.	2007-08-10	18.29	New Well	Domestic		1	7	THOMPSON, BILL	10.36	227.30
1066262	15	26	32	6	5	ALKEN BASIN DRILLING LTD.	2011-02-28	14.33	New Well	Domestic		5	5	DOOGIE DEVELOPMENTS	4.27	181.84
1066263	15	26	32	6	5	ALKEN BASIN DRILLING LTD.	2011-03-01	15.24	New Well	Domestic		6	7	DOOGIE DEVELOPMENTS	4.27	181.84
1066264	NE	26	32	6	5	ALKEN BASIN DRILLING LTD.	2011-03-02	15.85	New Well	Domestic		6	5	DOOGIE DEVELOPMENTS	5.79	181.84
1066265	15	26	32	6	5	ALKEN BASIN DRILLING LTD.	2011-03-03	18.90	New Well	Domestic		5	6	DOOGIE DEVELOPMENTS	5.18	181.84
1066266	15	26	32	6	5	ALKEN BASIN DRILLING LTD.	2011-03-04	18.29	New Well	Domestic		7	8	DOOGIE DEVELOPMENTS	5.79	181.84
1066267	16	26	32	6	5	ALKEN BASIN DRILLING LTD.	2011-03-15	18.29	New Well	Domestic		6	6	DOOGIE DEVELOPMENTS	4.57	181.84
1066338	16	26	32	6	5	ALKEN BASIN DRILLING LTD.	2011-03-23	18.29	New Well	Domestic		2	13	BATES, NEIL / DOOGIE DEVELOPMENTS	3.35	181.84
1066339	16	26	32	6	5	ALKEN BASIN DRILLING LTD.	2011-03-23	18.29	New Well	Domestic		2	8	BATES, NEIL / DOOGIE DEVELOPMENTS	3.66	181.84
1066340	15	26	32	6	5	ALKEN BASIN DRILLING LTD.	2011-03-24	18.29	New Well	Domestic		2	8	BATES, NEIL / DOOGIE DEVELOPMENTS	5.49	181.84

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

Well ID	LSD	SEC	TWP	RGE	M	DRILLING COMPANY	DATE COMPLETED	DEPTH (m)	TYPE OF WORK	USE	CHM	LT	PT	WELL OWNER	STATIC LEVEL (m)	TEST RATE (L/min)
1066341	15	26	32	6	5	ALKEN BASIN DRILLING LTD.	2011-03-25	18.29	New Well	Domestic		2	8	BATES, NEIL / DOOGIE DEVELOPMENTS	5.49	181.84
1066505	15	26	32	6	5	ALKEN BASIN DRILLING LTD.	2011-10-06	18.29	New Well	Domestic		1	4	DOOGIE DEVELOPMENT	4.88	227.30
1245174	NW	25	032	06	5	DOERING DRILLING LTD.	2004-07-07	40.54	New Well	Domestic		5	14	AAA CONTRACTING	6.04	27.28
1625009	05	25	032	06	5	RANKIN DRILLING	2003-05-28	21.34	New Well	Domestic		9	25	RICHARDS, KEITH		
1625010	05	25	032	06	5	RANKIN DRILLING	2003-07-09	24.99	New Well	Domestic		10	25	RICHARDS, KEITH		
1625011	05	25	032	06	5	RANKIN DRILLING	2005-08-25	6.10	Test Hole	Domestic		4	1	RICHARDS, KEITH		
2085219	16	26	32	6	5	BLACK DOG DRILLING & ENV SERV. LTD.	2010-07-23	24.38	New Well	Domestic		2	7	MADISSON, JAN	7.01	136.38

Attachment- Groundwater Chemistry of Well Records Within a 1 km Radius

Well ID	Guidelines for Canadian Drinking Water Quality		415735	415738	415879
	MAC	AO			
Lab Number	-	-	4337	13230	1201
Sample Date	-	-	18/04/1983	13/11/1984	03/02/1976
Analysis Date	-	-	04/05/1983	28/11/1984	24/03/1976
Laboratory	-	-	AE	AE	AE
Water Level (m)	-	-	-	-	5.49
Bicarbonate	-	-	231	229	288
Calcium	-	-	61	54	75
Chloride	-	250	<1	<1	7
Electrical Conductivity	-	-	452	443	450
Fluoride	1.5	-	0.16	0.12	0.22
Ion Balance	-	-	0.94	0.99	0.97
Iron	-	0.3	0.08	0.06	<0.1
Magnesium	-	-	17	21	19
Nitrate plus Nitrite	45	-	1	0	2
Nitrite	10	-	<0.05	<0.05	<0.1
pH	6.5-8.5	-	7.9	7.9	8.4
Potassium	-	-	0.82	0.92	2.4
Silica	-	-	5.6	6.1	-
Sodium	-	200	4	8	10
Sulphate	-	500	50	48	33
Total Alkalinity	-	-	189	188	246
Total Dissolved Solids	-	500	250	247	300
Total Hardness	-	-	222	221	264

All analyses are in mg/L

Guidelines- Guidelines for Canadian Drinking Water Quality (Health Canada, 2012)

MAC- Maximum acceptable concentration

AO- Asthetic objective

Yellow Highlight- Parameter greater than MAC

Bold- Parameter greater than AO




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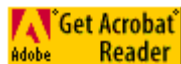
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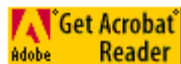
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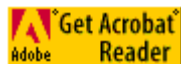
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