



Manitoba's Designated Oil Fields & Pools 2023

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Manitoba Geological Survey
Manitoba Economic Development, Investment and Trade

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FOREWORD

This annual report was compiled in accordance with section 11(4) of The Oil & Gas Act. This order does not include previously designated fields and pools that have been amalgamated or reassigned.

This report details the boundaries of the known oil fields and pools in Manitoba on January 1, 2023, with off confidential release date cutoff of June 30, 2023. It states the names and numerical codes used in the Manitoba Oil and Gas Information System (MOGWIS) to track the area and stratigraphic interval producing oil. Further information pertaining to the history of field or pool designations may be obtained by contacting the Manitoba Geological Survey.

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MANITOBA'S DESIGNATED FIELDS

Effective **January 1, 2023**, the following fields are designated under section 11(4)(b) of The Oil and Gas Act. Each oil field is given a two digit number designation, found in Table 1; this field code becomes the first two digits of the field pool code. The field boundaries are shown in Figure 1.

The area encompassed by each field is outlined on the reference plats (Figures 3 to 9) as per the index map in Figure 2. All fields and pools are drawn on the Dominion Land Survey (DLS) system grid, and maps include the township, section and quarter section grid, depending on the scale of the map. Appendix A describes the DLS system grid.

Table 1: Manitoba's designated field codes and index map numbers.

FIELD	FIELD CODE	MAP #
Daly Sinclair Field	01	3
Tilston Field	02	3 & 5
Waskada Field	03	6
Lulu Lake Field	04	7
Viriden Field	05	4
Whitewater Field	06	7
Pierson Field	07	5
Kirkella Field	09	2
Souris Hartney Field	10	7
Regent Field	13	7
Mountainside Field	14	7
Birdtail Field	15	1
Manson Field	17	2

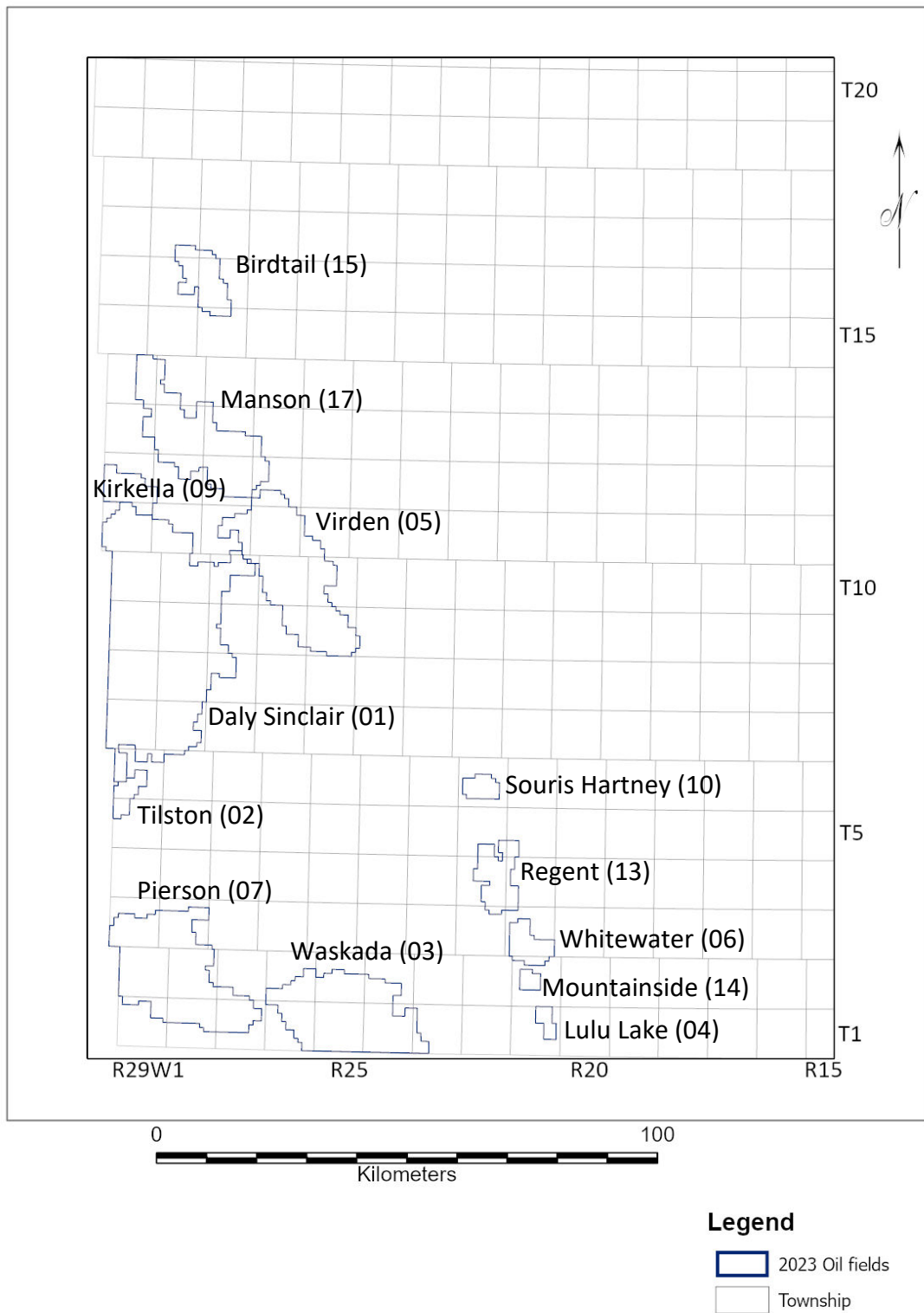


Figure 1: Oil field locations with field names and field code, southwestern Manitoba.

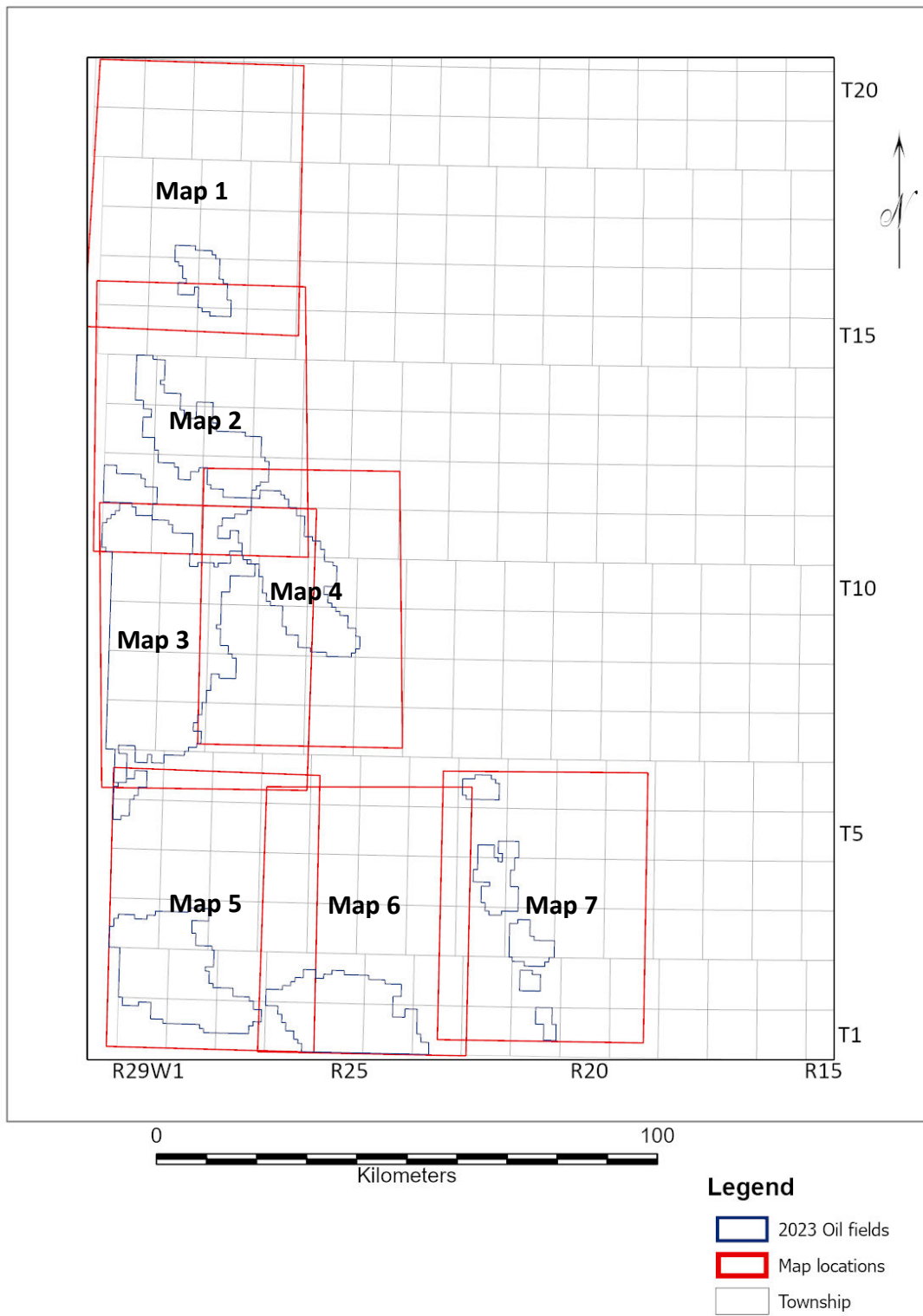
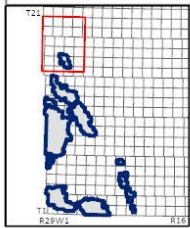
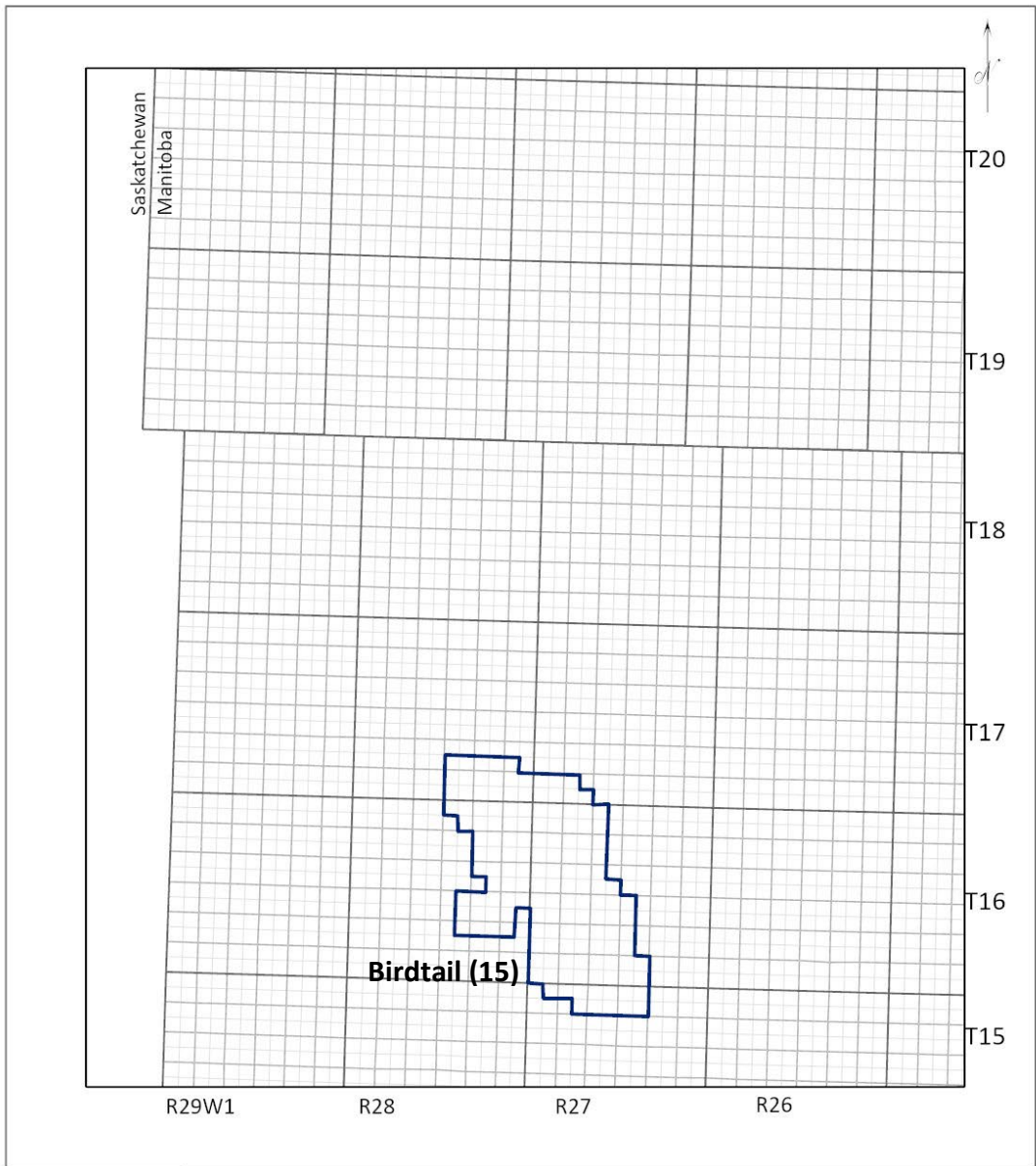
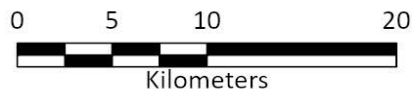


Figure 2: Index of map locations and map number used for pool plats, southwestern Manitoba.



Map 1



Legend

- 2023 Oil Fields
- Township
- Section
- Quarter section

Figure 3: Map 1; Birdtail Field.

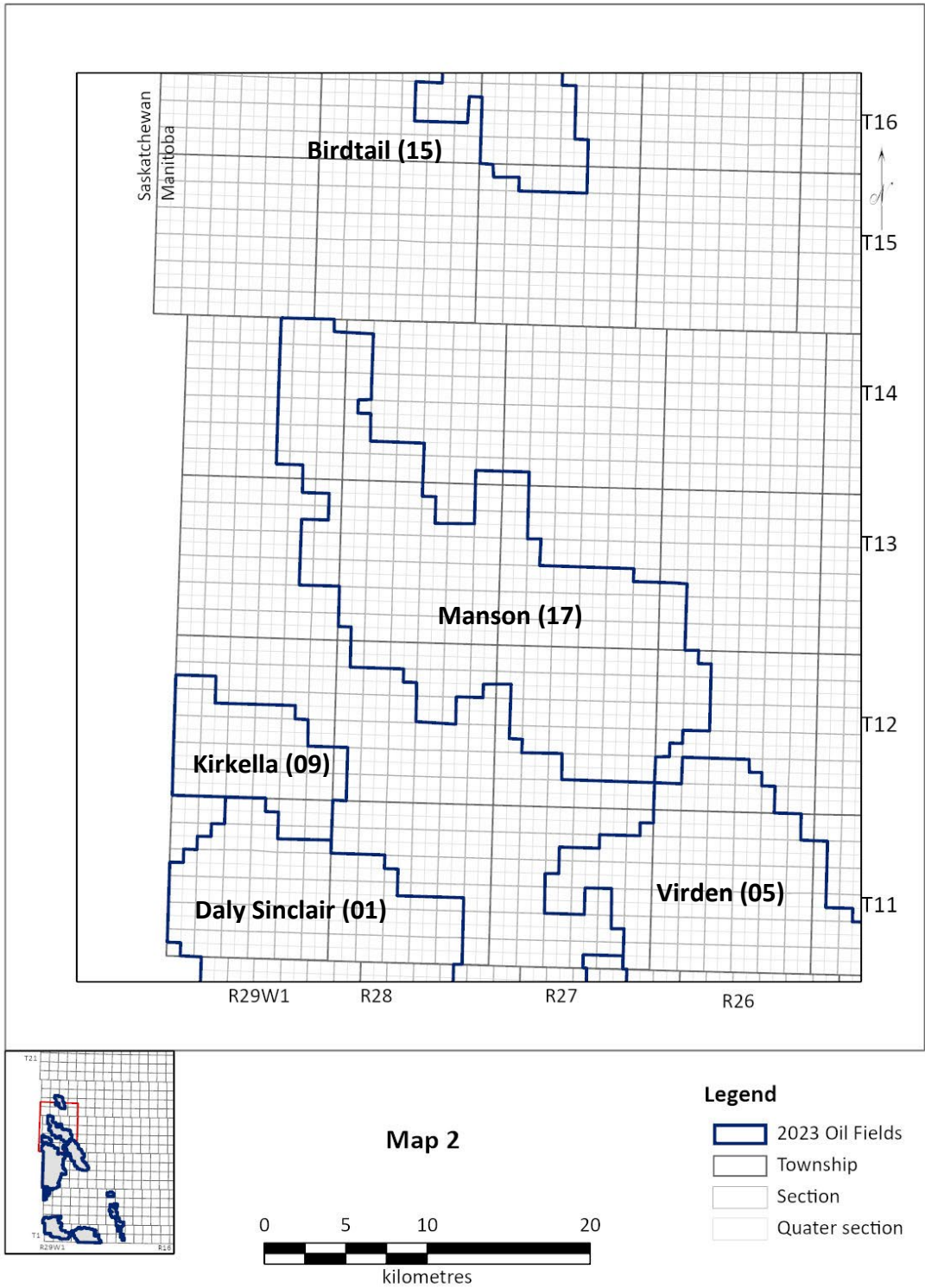


Figure 4: Map 2; Manson, Kirkella, Daly Sinclair & Virden fields.

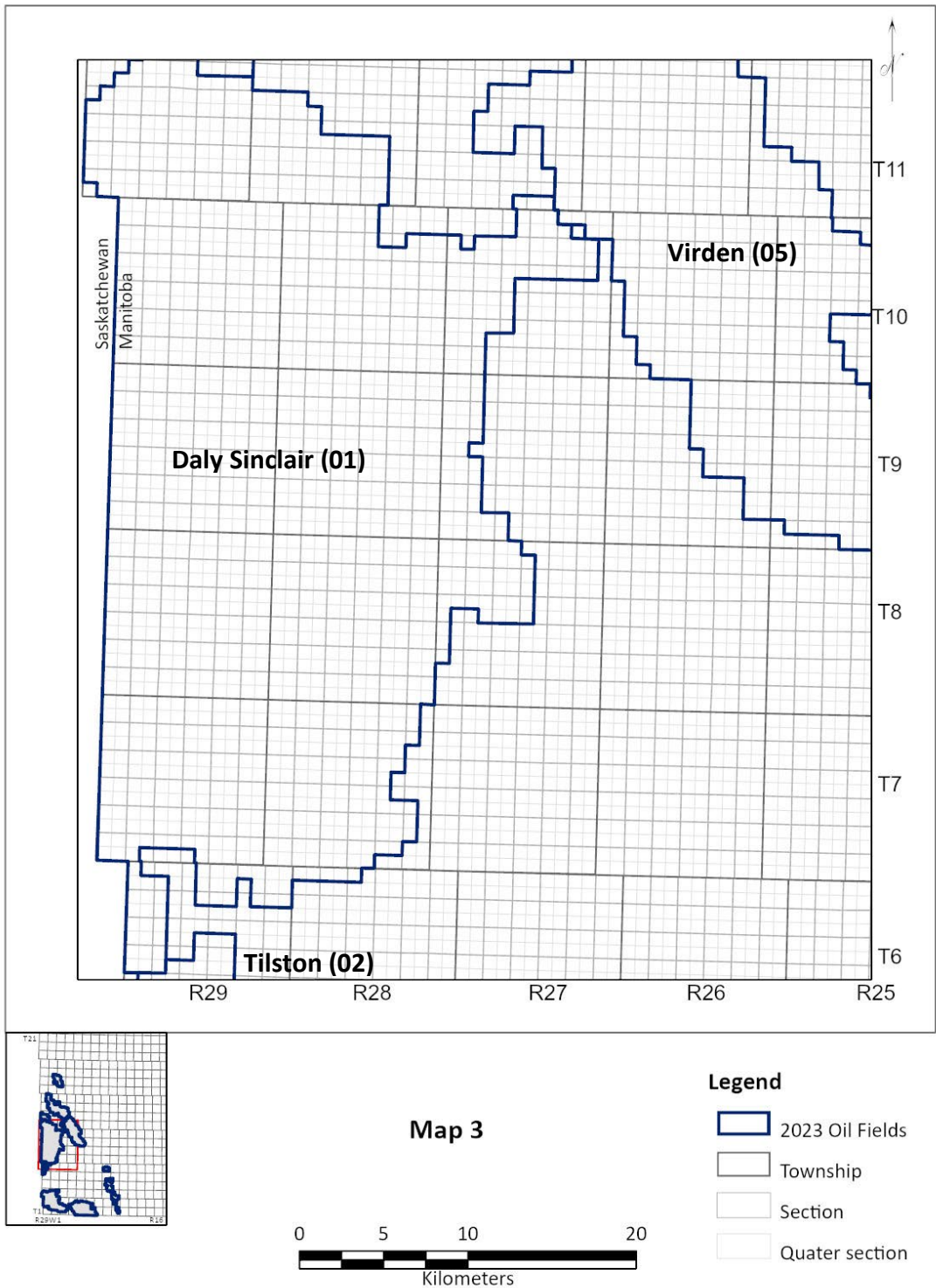


Figure 5: Map 3; Daly Sinclair, Virden & Tilston fields.

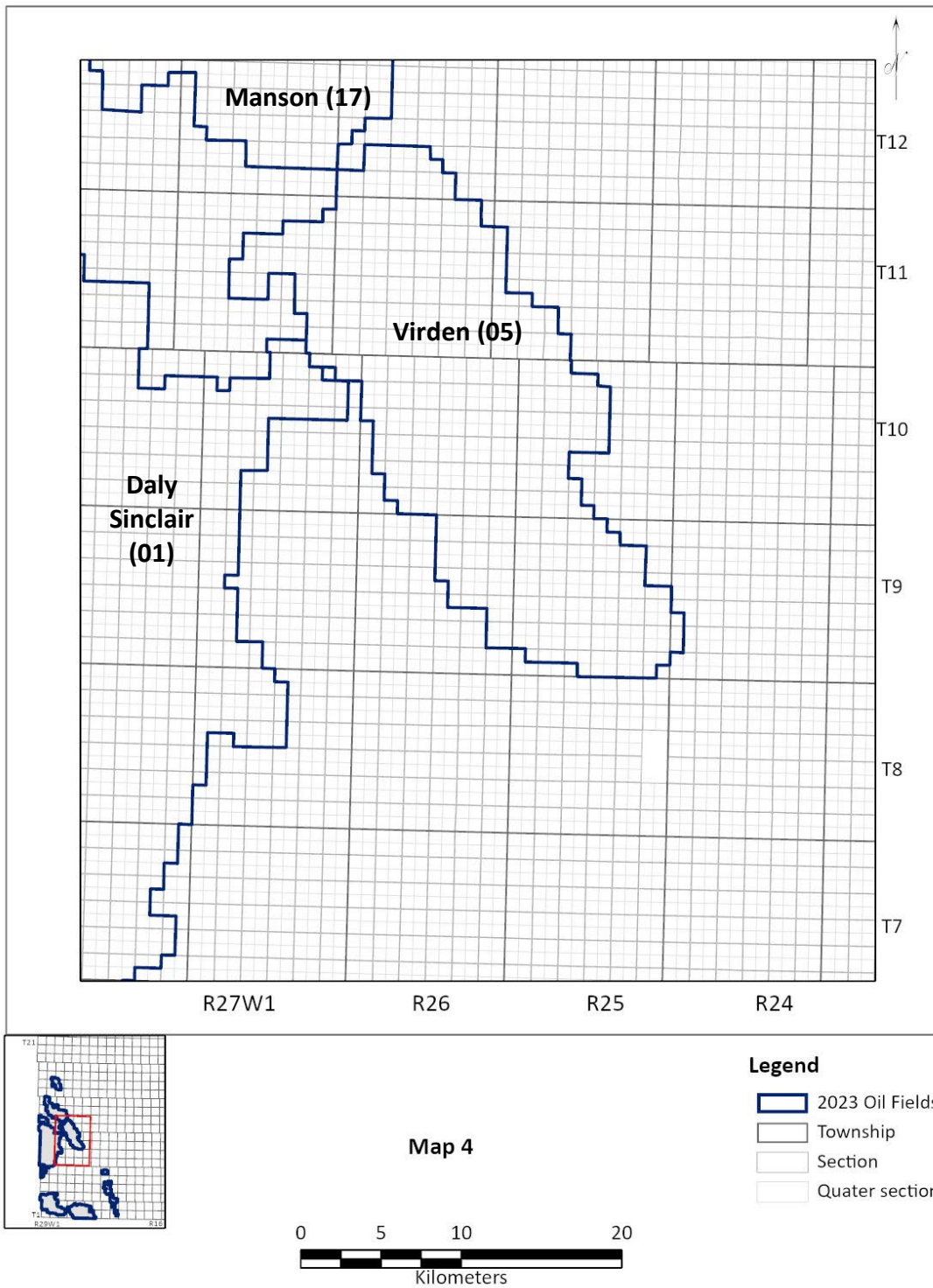
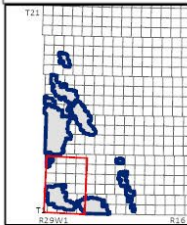
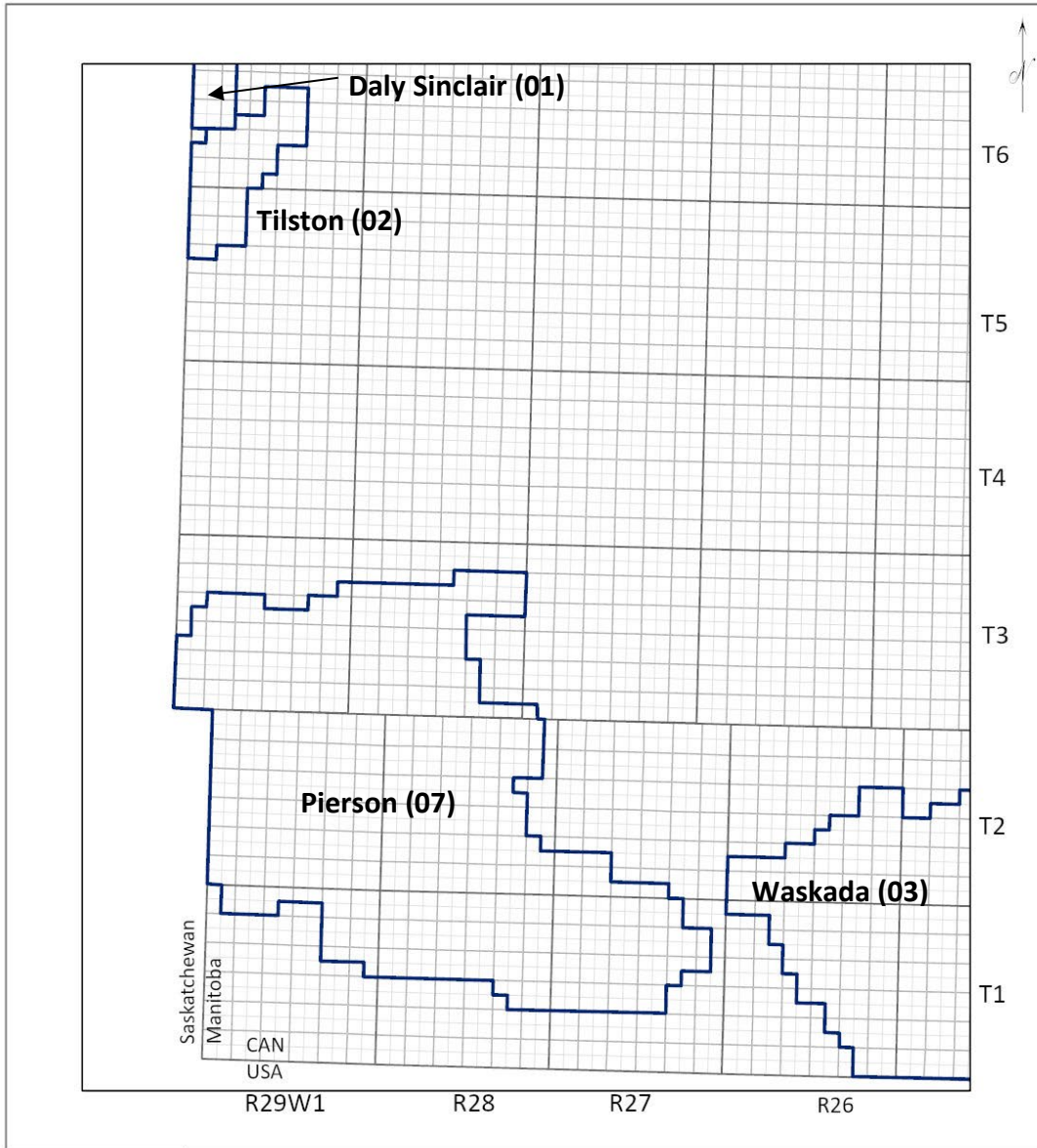


Figure 6: Map 4; Manson, Daly Sinclair & Virden fields.



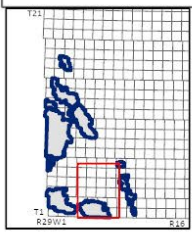
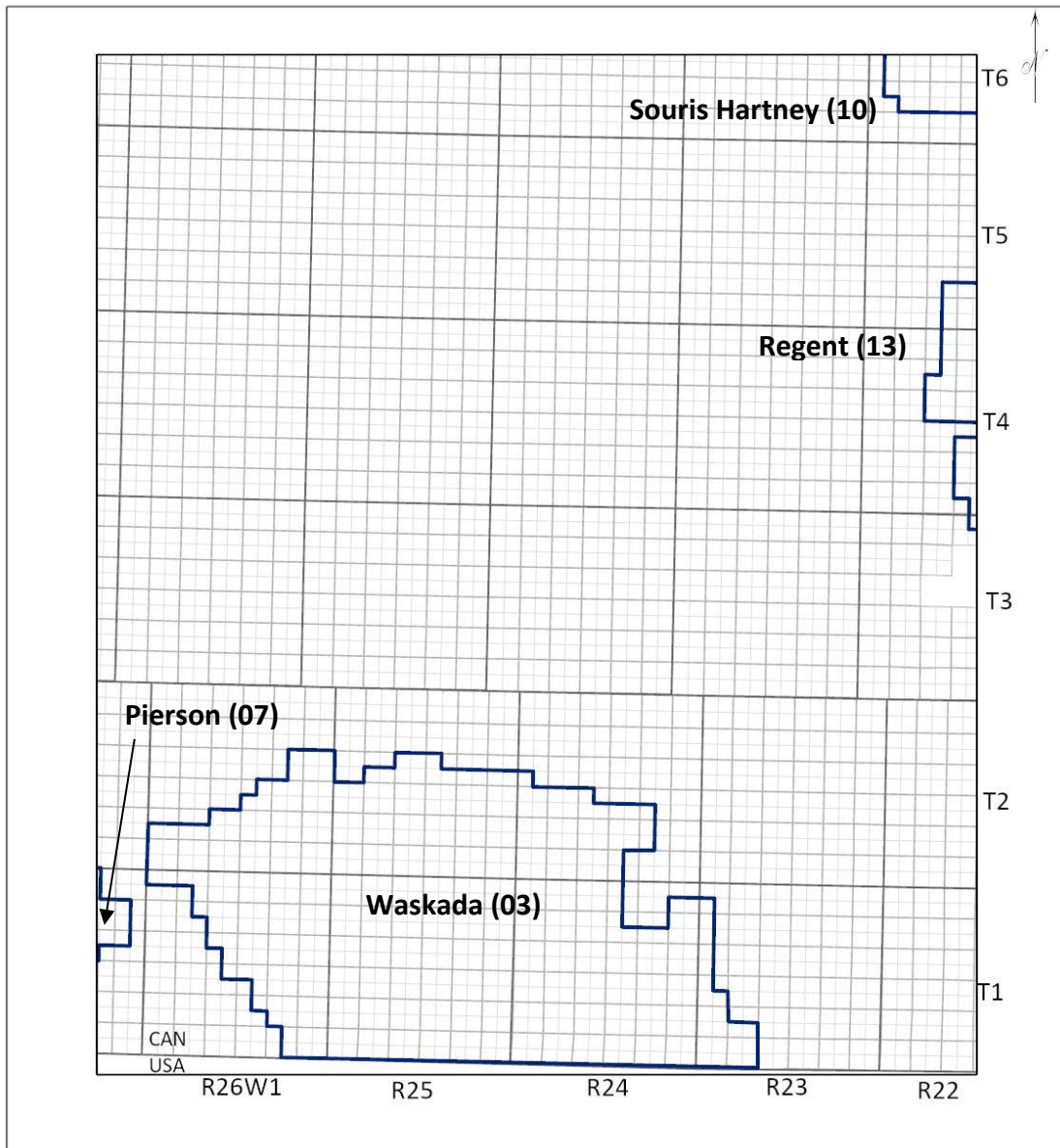
Map 5



Legend

- 2023 Oil Fields
- Township
- Section
- Quarter section

Figure 7: Map 5; Tilston, Pierson & Waskada fields.

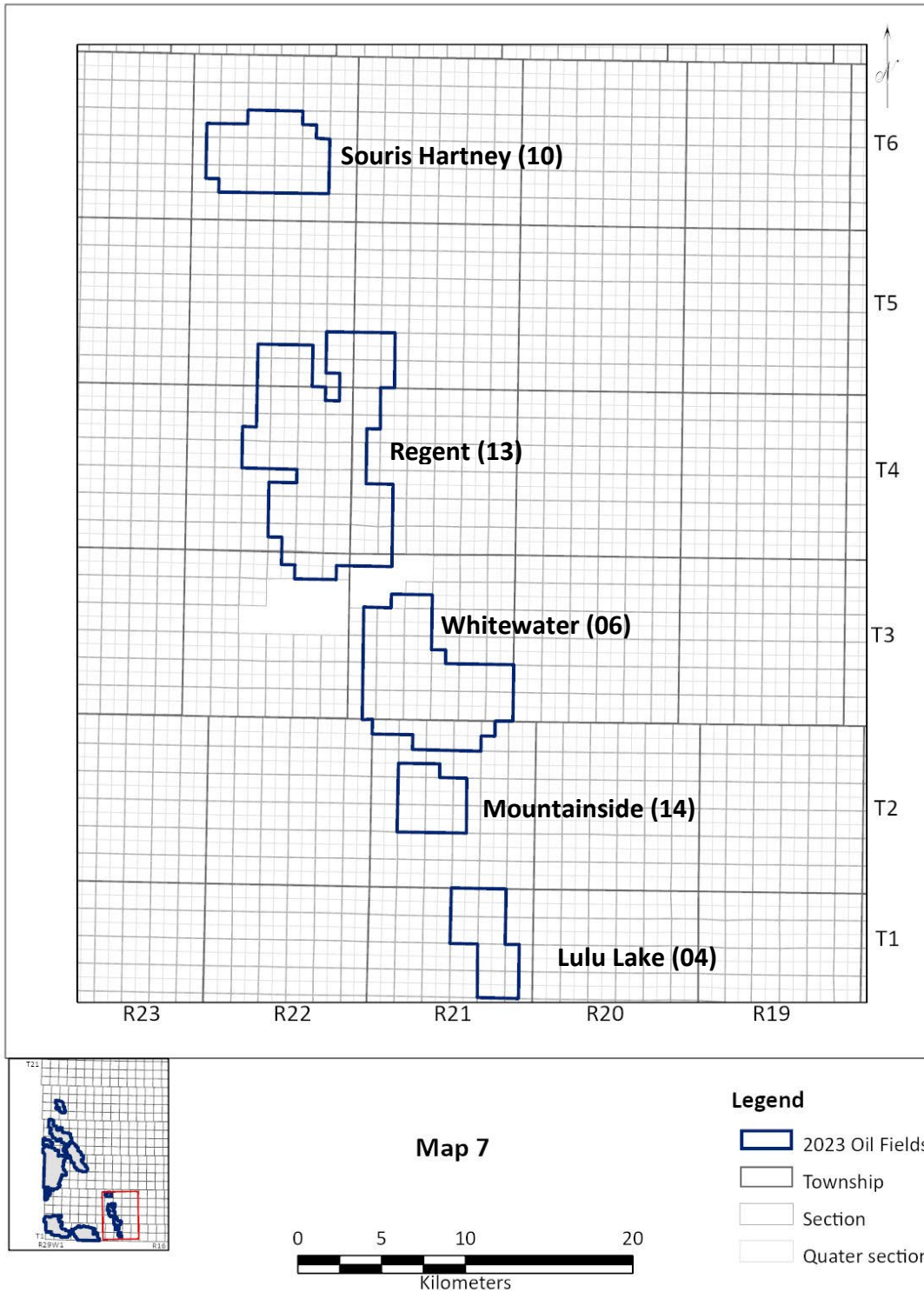


Map 6



- Legend**
- 2023 Oil Fields
 - Township
 - Section
 - Quarter section

Figure 8: Map 6; Waskada Field.



MANITOBA'S DESIGNATED POOLS

Effective **January 1, 2023** the following oil pools are designated under clause 11(4)(a) of the Oil and Gas Act.

A list of all Manitoba oil pools can be found in Table 2, with their respective discovery or reference well. A graphic representation of the area encompassed by each oil pool is shown in Figures 10 to 43 by stratigraphic interval. The listing of Manitoba Pool Codes by Formation can be found in Appendix B. The stratigraphy of the Williston Basin in Manitoba showing the stratigraphic intervals by Period, Epoch, Group, Formation and Member can be found in Appendix C.

Pool codes are assigned in the following manner: Each oil pool is given a two digit formation code number followed by a letter designation denoting the sequence of discovery; this pool code follows the two digit field code and is comprised of three to five digits.

Table 2: Manitoba's designated pools.

POOL	FIELD POOL CODE	FIGURE #	REFERENCE WELL	
			UWI	TVD INTERVAL (meters KB)
DALY SINCLAIR FIELD				
Upper Amaranth A	01 23A	18, 23	102/09-35-009-28W1/00	695.2-698.2
Lodgepole A	01 59A	20, 25	100/14-04-010-28W1/00	725.4-821.4
Lodgepole C	01 59C	20, 25	100/03-33-008-27W1/00	736.7-837.0
Lodgepole K	01 59K	20	100/08-30-010-29W1/00	788.0-877.5
Lodgepole P	01 59P	20	100/03-27-010-29W1/00	769.0-853.2
Lodgepole W	01 59W	20	100/10-18-007-29W1/00	927.5-932.5
Lodgepole X	01 59X	20, 25	100/02-21-007-28W1/00	
Lodgepole FF	01 59FF	16, 20	100/12-11-011-29W1/00	730.5-733.5; 748.5-751
Lodgepole GG	01 59GG	16, 20	100/06-16-011-29W1/00	744-783.3
Lodgepole HH	01 59HH	16, 20	100/05-10-011-29W1/00	826.6-827.7
Lodgepole II	01 59II	16, 20	100/11-27-011-29W1/00	836.5-838; 839-840
Lodgepole JJ	01 59JJ	16	102/12-34-011-29W1/00	730-748.2
Lodgepole KK	01 59KK	20	102/12-22-008-29W1/00	834.83
Lodgepole MM	01 59MM	20	102/01-14-008-29W1/00	846.93
Lodgepole OO	01 59OO	20	102/09-29-008-29W1/00	871.02-877.05
Lodgepole PP	01 59PP	16, 20	100/08-07-011-29W1/00	782.5-783.5
Lodgepole QQ	01 59QQ	20	100/06-36-006-29W1/00	872.3-875.2
Lodgepole RR	01 59RR	20, 25	100/16-19-010-27W1/00	715.0-718.0
Lodgepole SS	01 59SS	20	100/10-29-007-28W1/00	833-835; 839-843
Lodgepole TT	01 59TT	20	104/12-25-007-29W1/00	950.89-960.77
Bakken J	01 60J	21, 26	100/07-18-010-27W1/02	780.3-784.6
Bakken- Torquay A	01 62A	21, 26	100/01-22-010-29W1/00	859.5-866.0
Bakken- Torquay N	01 62N	21, 26	103/04-24-010-28W1/02	814.0-917.0
Bakken- Torquay Q	01 62Q	21, 26	100/08-30-009-27W1/00	834.0-873.0
Bakken- Torquay R	01 62R	21, 26	100/16-31-009-27W1/02	832.5-834.5
Bakken- Torquay X	01 62X	21	100/03-34-006-29W1/00	1029-1041
Bakken- Torquay Z	01 62Z	17, 21	100/07-16-011-29W1/00	753-757.5; 842-846
Bakken- Torquay CC	01 62CC	17, 21	100/12-24-011-29W1/00	837-840; 842-846
Bakken- Torquay DD	01 62DD	21, 26	100/12-34-010-27W1/00	765-774.34
Bakken- Torquay GG	01 62GG	21	102/02-30-006-29W1/00	1096.18-1106.81
Bakken- Torquay HH	01 62HH	21, 26	102/01-26-010-27W1/00	770.22-782.03
Bakken- Torquay II	01 62II	21	100/16-18-006-29W1/00	1099-1105.95
POOL	CODE	FIGURE #	REFERENCE WELL	

			UWI	TVD INTERVAL (meters KB)
Torquay B	01 65B	22	100/09-30-007-28W1/00	969.0-971.0
TILSTON FIELD				
Mission Canyon 1 A	02 44A	32	100/06-31-005-29W1/00	940.0-969.0
Mission Canyon 1 C	02 44C	19, 32	100/02-08-006-29W1/00	925.0-940.0
Mission Canyon 1 D	02 44D	19, 32	100/11-15-006-29W1/00	907.0-910.5
Bakken- Torquay A				
Bakken- Torquay A	02 62A	33	100/13-29-005-29W1/00	1118.7-1120.7
WASKADA FIELD				
Favel A	03 10A	34	100/01-03-002-25W1/02	479.5-841.0
Favel B	03 10B	34	100/03-27-001-25W1/02	478.0-479.5
Favel C	03 10C	34	100/10-17-001-24W1/00	481.5-484.5
Lower Amaranth A				
Lower Amaranth A	03 29A	27, 35	100/11-30-001-25W1/03	884.5-920.5
Lower Amaranth I	03 29I	35	100/03-01-001-25W1/00	873.7-910.0
Lower Amaranth J	03 29J	35	100/01-03-001-25W1/00	885.0-920.5
Lower Amaranth O	03 29O	35	100/13-10-002-24W1/00	869.5-879.5
Lower Amaranth P	03 29P	35	100.04-05-001-23W1.02	970.5-972.0
Mission Canyon 3b A				
Mission Canyon 3b A	03 42A	30, 36	100/11-30-001-25W1/03	920.5-929.6
Mission Canyon 3b B	03 42B	30, 36	100/13-27-001-26W1/00	920.0-936.5
Mission Canyon 3b C	03 42C	30, 36	100/05-07-001-25W1/00	931.5-941.0
Mission Canyon 3b E	03 42E	30, 36	100/04-08-001-25W1/00	936.0-948.0
Mission Canyon 3b F	03 42F	30, 36	100/11-22-001-26W1/02	929.5-948.0
Mission Canyon 3b G	03 42G	30, 36	100/11-05-002-26W1/00	929.0-955.5
Mission Canyon 3a A				
Mission Canyon 3a A	03 43A	31, 37	100/01-25-001-26W1/00	928.0-950.0
Mission Canyon 3a B	03 43B	37	100/12-23-001-25W1/00	904.6-912.6
Mission Canyon 3a C	03 43C	31, 37	100/12-26-001-26W1/00	924.0-940.0
Mission Canyon 3a D	03 43D	31, 37	100/10-30-001-25W1/00	921.0-931.0
Mission Canyon 3a E	03 43E	31, 37	100/02-12-001-26W1/02	930.0-944.0
Mission Canyon 3a F	03 43F	31, 37	100/15-05-001-25W1/00	931.0-941.0
Mission Canyon 3a G	03 43G	31, 37	100/12-31-001-25W1/00	912.5-929.0
Mission Canyon 3a H	03 43H	31, 37	100/06-18-002-251W1/00	899.0-907.0
Mission Canyon 3a I	03 43I	31, 37	100/07-35-001-26W1/00	917.0-935.0
Mission Canyon 3a K	03 43K	31, 37	100/06-19-001-25W1/00	924.0-934.0
Mission Canyon 3a L	03 43L	31, 37	100/08-32-001-25W1/00	909.5-917.0
Mission Canyon 3a M	03 43M	31, 37	100/10-10-001-25W1/00	915.0-925.0
Mission Canyon 3a N	03 43N	31, 37	100/02-20-001-25W1/00	919.5-930.0
POOL	CODE	FIGURE #	REFERENCE WELL	
			UWI	TVD INTERVAL

				(meters KB)
Mission Canyon 1 A	03 44A	32, 38	100/01-30-001-25W1/00	917.4-947.9
Mission Canyon 1 B	03 44B	32, 38	100/09-13-001-26W1/00	920.5-967.4
Mission Canyon 1 C	03 44C	38	100/02-22-001-25W1/00	908.3-943.0
Mission Canyon 1 D	03 44D	32, 38	100/04-09-002-25W1/00	986.0-912.0
Mission Canyon 1 E	03 44E	38	100/06-33-001-25W1/00	905.5-942.0
Mission Canyon 1 F	03 44F	38	100/02-27-001-25W1/00	902.5-930.0
Mission Canyon 1 G	03 44G	38	100/04-05-001-24W1/00	910.0-937.0
Mission Canyon 1 H	03 44H	38	100/03-24-001-25W1/00	898.0-910.0
Mission Canyon 1 I	03 44I	38	100/02-14-002-25W1/00	882.0-915.0
Mission Canyon 1 J	03 44J	38	100/04-24-002-26W1/00	898.0-900.0
Mission Canyon 1 K	03 44K	38	100/02-33-001-24W1/00	871.7-900.0
Mission Canyon 1 L	03 44L	38	100/04-12-001-24W1/00	941.5-946.0
Mission Canyon 1 M	03 44M	38	100/09-25-001-24W1/00	939.5-941.5
Mission Canyon 1 N	03 44N	38	100/06-07-001-24W1/00	897.5-898.5
Mission Canyon 1 O	03 44O	38	100/13-09-002-24W1/00	865.0-873.0
Mission Canyon 1 P	03 44P	38	100/15-10-002-24W1/00	888.8-893.8
Mission Canyon 1Q	03 44Q	38	100/07-06-002-24W1/00	876.5-878.5
LULU LAKE FIELD				
Lodgepole WL A	04 52A	41	100/08-23-001-21W1/00	1008.5-1027.0
Lodgepole WL B	04 52B	41	100/15-27-001-21W1/00	1005.5-1024.0
VIRDEN FIELD				
Reston A	05 21A	23	100/08-06-012-26W1/00	569-574
Lodgepole A	05 59A	16, 20, 25	102/06-27-011-26W1/00	563.9-667.0
Lodgepole B	05 59B	20, 25	100/06-28-010-26W1/00	623.0-726.0
Lodgepole C	05 59C	20, 25	100/10-21-009-25W1/00	595.0-648.0
Lodgepole D	05 59D	25	100/07-11-009-25W1/00	598.9-655.3
Lodgepole E	05 59E	20, 25	100/07-26-009-26W1/00	634.0-732.1
Lodgepole G	05 59G	16, 20, 25	100/10-01-011-27W1/00	647.0-710.0
Lodgepole K	05 59K	16, 20, 25	100/15-16-011-27W1/00	895.2
WHITEWATER FIELD				
Lower Amaranth A	06 29A	40	100/04-21-003-21W1/02	745.0-757.7
Lodgepole WL A	06 52A	41	100/16-17-003-21W1/00	759.6-786.1
POOL	CODE	FIGURE #	REFERENCE WELL	
			UWI	TVD INTERVAL (meters KB)

Lodgepole Virden A	06 53A	42	100/05-12-003-21W1/00	787.0-804.5
PIERSON FIELD				
Lower Amaranth A	07 29A	27	100/04-26-003-28W1/00	915.7-949.5
Lower Amaranth B	07 29B	27	100/12-30-002-28W1/02	955.0-992.0
Lower Amaranth L	07 29L	27	100/02-26-001-29W1/00	1000.0-1038.0
Lower Amaranth S	07 29S	27	100/02-31-002-29W1/00	
Lower Amaranth T	07 29T	27	100/15-32-001-29W1/02	
Lower Amaranth V	07 29V	27	100/11-35-002-28W1/00	952.94
Lower Amaranth W	07 29W	27	100/06-07-002-29W1/00	1029.5-1032.5
Lower Amaranth X	07 29X	27	102/01-03-003-29W1/00	1000.2-1003.76
Lower Amaranth – Mission Canyon 3b A	07 35A	28	100/14-17-002-29W1/02	1023.5-1028.5; 1036.5-1038.8
Lower Amaranth – Mission Canyon 3b B	07 35B	28	100/01-35-002-28W1/00	959.0-963.0; 950.5-956.5
Lower Amaranth – Mission Canyon 3b C	07 35C	28	100/11-34-002-28W1/00	974-975; 955-961
Lower Amaranth – Mission Canyon 3b D	07 35D	28	100/15-20-002-28W1/02	975.0-979.0; 988.5-990
Mission Canyon 3 B	07 41B	29	100/14-05-002-28W1/02	1007.5-1030.0
Mission Canyon 3 C	07 41C	29	100/12-06-003-29W1/00	1165.0-1605.0 MD
Mission Canyon 3 D	07 41D	29	100/07-21-001-27W1/00	
Mission Canyon 3b B	07 42B	30	100/08-07-003-28W1/00	981.5-990.6
Mission Canyon 3b C	07 42C	30	100/06-17-003-29W1/00	1002.0-1016.0
Mission Canyon 3b D	07 42D	30	100/13-32-002-29W1/00	1021.1-1033.3
Mission Canyon 3b E	07 42E	30	100/11-30-002-28W1/00	990.0-1002.0
Mission Canyon 3b J	07 42J	30	100/13-33-001-28W1/00	1002.0-1026.0
Mission Canyon 3b K	07 42K	30	100/05-30-001-28W1/00	1025.0-1043.5
Mission Canyon 3b L	07 42L	30	100/06-23-002-29W1/00	1012-1020
Mission Canyon 3b M	07 42M	30	100/08-06-002-27W1/00	967.7-969.7
Mission Canyon 3b N	07 42N	30	100/04-34-002-28W1/00	974.5-975.8
Mission Canyon 3b O	07 42O	30	100/09-26-002-28W1/00	963-965
Mission Canyon 3b Q	07 42Q	30	100/10-29-002-29W1/00	1029.5-1031.5
Mission Canyon 3b R	07 42R	30	104/07-21-001-27W1/00	971.69-976.67
Mission Canyon 3b S	07 42S	30	100/07-28-002-29W1/00	1149-2417 MD
Mission Canyon 3b T	07 42T	30	104/06-34-001-28W1/00	996.63-1002.42
Mission Canyon 3b U	07 42U	30	100/16-26-001-28W1/02	994.72-1005.3
Mission Canyon 3a A	07 43A	31	100/08-16-003-29W1/00	999.7-1018.0
			REFERENCE WELL	
POOL	CODE	FIGURE #	UWI	TVD INTERVAL (meters KB)
Mission Canyon 3a B	07 43B	31	100/09-18-003-28W1/00	976.9-990.6

Mission Canyon 3a E	07 43E	31	100/06-10-003-28W1/00	970.3-985.0
Mission Canyon 3a F	07 43F	31	100/14-05-003-29W1/03	1085.0-1385.0 MD
Mission Canyon 3a G	07 43G	31	100/06-36-002-29W1/02	1002.8-1003.85
Mission Canyon 3a H	07 43H	31	100/10-29-002-29W1/00	1029.5-1031.5
Mission Canyon 1 A	07 44A	32	100/04-25-003-28W1/00	948.0-980.0
KIRKELLA FIELD				
Lodgepole Dolomite A	09 51A	13	100/14-08-012-29W1/00	725.0-742.0
Lodgepole Dolomite B	09 51B	13	100/04-19-012-29W1/00	729.0-744.0
Lodgepole Daly A	09 54A	14	100/14-10-012-29W1/00	
Lodgepole Daly B	09 54B	14	100/05-17-012-29W1/00	
Lodgepole Daly B	09 54C	14	100/04-18-012-29W1/00	
Lodgepole Daly D	09 54D	14	100/14-01-012-29W1/00	714.0-740.0
Lodgepole Daly E	09 54E	14	100/16-06-012-29W1/00	746.0-758.0
Lodgepole Crinoidal A	09 55A	15	100/10-03-012-29W1/00	758.0-761.5
Lodgepole Crinoidal B	09 55B	15	100/11-15-012-29W1/00	716.0-720.0 md
Lodgepole Crinoidal C	09 55C	15	100/15-10-012-29W1/00	715.0-729.0
Lodgepole A	09 59A	16	100/16-16-12-29W1/03	741.5-742.5; 752.5-753.5
Lodgepole B	09 59B	16	100/04-36-011-29W1/00	741.5-745
Bakken-Torquay A	09 62A	17	100/12-15-012-29W1/02	786.5-791.5
Bakken-Torquay B	09 62B	17	100/16-03-012-29W1/02	809.0-811.0
Bakken-Torquay C	09 62C	17	100/14-35-011-29W1/00	817-818.5
Bakken-Torquay D	09 62D	17	102/04-36-011-29W1/02	828.5-835
SOURIS HARTNEY FIELD				
Lodgepole Virden A	10 53A	42	100/04-16-006-22W1/00	653.2-671.8
REGENT FIELD				
Lodgepole WL A	13 52A	41	100/16-02004-22W1/00	761.5-780.0
Lodgepole WL B	13 52B	41	100/15-21-004-22W1/00	758.6-777.8
Lodgepole Virden A	13 53A	42	100/06-07-004-21W1/00	766.9-781.8
POOL	CODE	FIGURE #	REFERENCE WELL	
			UWI	TVD INTERVAL (meters KB)
Lodgepole Virden B	13 53B	42	100/14-13-004-22W1/00	759.0-780.0
Lodgepole Virden D	13 53D	42	100/12-31-004-21W1/00	733.0-738.4

Lodgepole Virden E	13 53E	42	100/02-07-005-21W1/00	713.5-715
MOUNTAINSIDE FIELD POOL				
Lodgepole WL A	14 52A	41	103/11-16-002-21W1/00	1078.0-1451.4
BIRDTAIL FIELD				
Bakken-Torquay A	15 62A	11	100/09-30-016-27W1/00	535.5-538
Bakken-Torquay D	15 62D	11, 17	100/04-14-016-28W1/00	449.72-459.1
MANSON FIELD				
Reston-Amaranth-Lodgepole A	17 22A	12	100.01-34-012-27W1.00	556-557
Reston-Amaranth-Lodgepole B	17 22B	12, 23	100.04-27-012-27W1.00	565-566
Reston-Amaranth-Lodgepole C	17 22C	12, 23	100.16-19-012-26W1.00	548-551
Reston-Amaranth-Lodgepole D	17 22D	12	100.07-01-013-27W1.00	537-538.8
Reston-Amaranth-Lodgepole E	17 22E	12	100.03-31-012-26W1.00	538.9-540.9
Reston-Amaranth-Lodgepole F	17 22F	12, 23	100.04-19-012-26W1.00	560.0-562.4
Lodgepole A	17 59A	16	100/15-22-012-28W1/00	629.8-645.5
Bakken-Torquay A	17 62A	17	100/01-34-012-28W1/00	700.41-707.44
Bakken-Torquay B	17 62B	17	100/14-09-013-28W1/00	672-674
Bakken-Torquay G	17 62G	17	100/04-06-014-28W1/00	
Bakken-Torquay H	17 62H	17	100/11-04-014-28W1/00	625.7-629.2; 630.9-633.2
Bakken-Torquay J	17 62J	17	100.01-34-12-27W1.00	644-645
Bakken-Torquay K	17 62K	17	100.08-36-013-28W1.00	606-608
Bakken-Torquay L	17 62L	17	100.08-02-013-27W1.00	650.8-654
Bakken-Torquay M	17 62M	17, 26	100.15-17-012-27W1.00	669.5-670; 671- 672.8
OTHER AREAS				
Melita A	99 19A	10	100/14-15-016-29W1/00	432.3-446.0
Melita B	99 19B	10	100/06-17-016-29W1/00	438-441
Lower Amaranth-Lodgepole	99 40A	24	100/03-33-008-24W1/00	570.0-584.0
Mission Canyon 1 A	99 44A	38	100/08-31-002-23W1/00	812.0-843.0
Mission Canyon 1 D	99 44D	32, 38	100/16-02-003-26W1/00	879.0-922.0
Mission Canyon 1 E	99 44E	32	100/16-06-006-28W1/00	905.0-908.0
Mission Canyon 1 G	99 44G	19, 32	100/02-16-006-26W1/00	855.0-1229.0 MD
POOL	CODE	FIGURE #	REFERENCE WELL	
			UWI	TVD INTERVAL (meters KB)
Mission Canyon 1 H	99 44H	19, 32	100/03-13-006-27W1/00	786.5-790.0
Mission Canyon 1 J	99 44J	32	100/11-36-005-29W1/00	923.0-927.5
Mission Canyon 1 K	99 44K	19	100/09-02-007-27W1/00	777.0-779.5

Mission Canyon 1 L	99 44L	19	100/06-03-007-27W1/00	789.7-794.0
Mission Canyon 1 M	99 44M	38	100/05-35-002-24W1/00	842.0-845.0
Mission Canyon 1 O	99 44O	38	100/14-36-001-23W1/00	944-948
Mission Canyon 1 R	99 44R	32	100/12-21-005-28W1/00	905-908; 899-902
Mission Canyon 1 S	99 44S	19, 32	102/01-22-006-28W1-00	864.79
Lodgepole WL C	99 52C	41	100/13-19-004-22W1/00	762.0-775.7
Lodgepole Virden C	99 53C	39	100/05-32-002-23W1/00	827.0-828.5
Lodgepole I	99 59I	39	100/11-35-002-24W1/00	960.0-1955 MD, 1063-1308 MD
Lodgepole J	99 59J	39, 43	100/10-18-005-22W1/00	757.0-759; 764.0- 765.5
Lodgepole S	99 59S	43	100.04-31-006-21W1.00	623.3-627
Bakken-Torquay L	99 62L	17, 33	100/05-08-004-29W1/00	1209.5-1214.5
Bakken-Torquay M	99 62M	33	100/10-08-006-28W1/00	1064.0-1066.0
Bakken- Torquay U	99 62U	21, 26	100/01-11-010-27W1/00	779.7-789.4
Bakken- Torquay DD	99 62DD	11	100/15-32-017-28W1/00	511-513
Bakken- Torquay JJ	99 62JJ	17, 26	100/08-10-012-28W1/02	740.62-759.93
Bakken- Torquay KK	99 62KK	17, 21, 26	100/09-23-011-28W1/00	821.11-824.91
Bakken- Torquay LL	99 62LL	11	100/04-25-015-27W1/00	527.7
Bakken-Torquay MM	99 62MM	17	100/14-21-014-28W1/00	594.5-595.5
Bakken-Torquay NN	99 62NN	11	100/03-26-018-29W1/00	478.5-486
Bakken-Torquay SS	99 62SS	11	100.04-21-016-29W1.00	540.77-561.45
Bakken-Torquay TT	99 62TT	17	100-01-18-015-28W1/02	579.24-854.16

MANITOBA'S DESIGNATED POOL PLATS

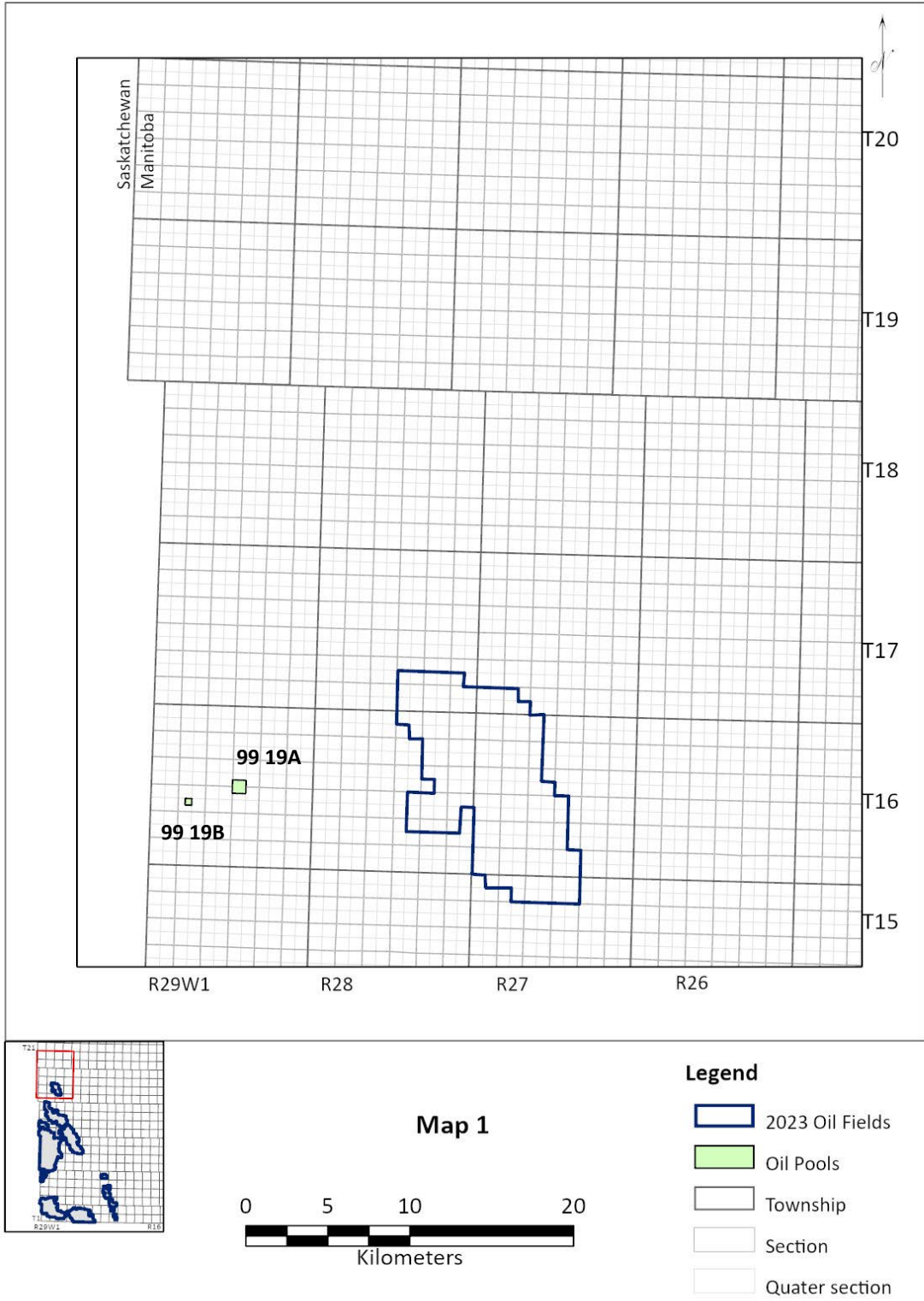


Figure 10: Map 1, Melita Formation pools (19).

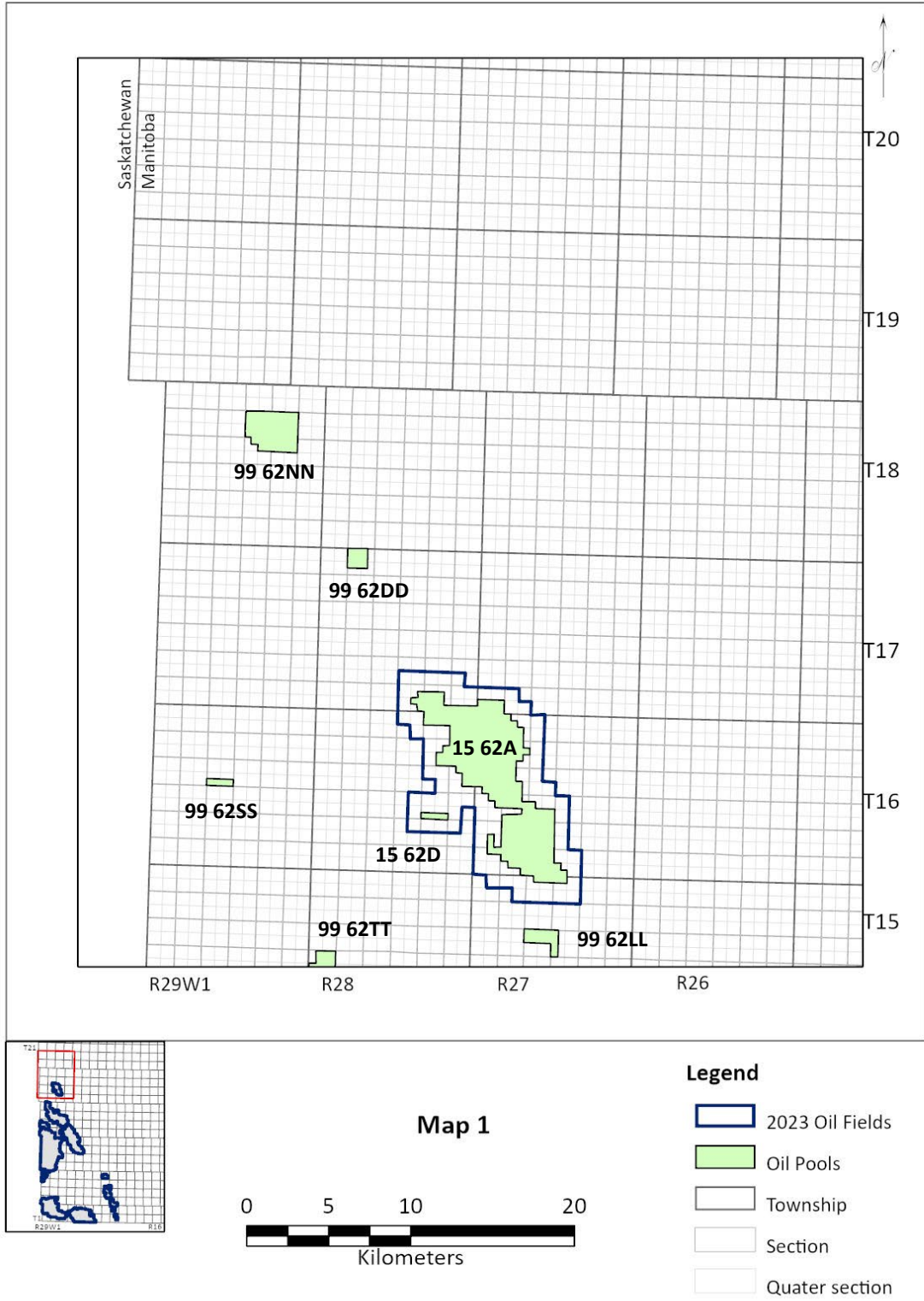


Figure 11: Map 1; Bakken & Bakken-Torquay formation pools (60 & 62).

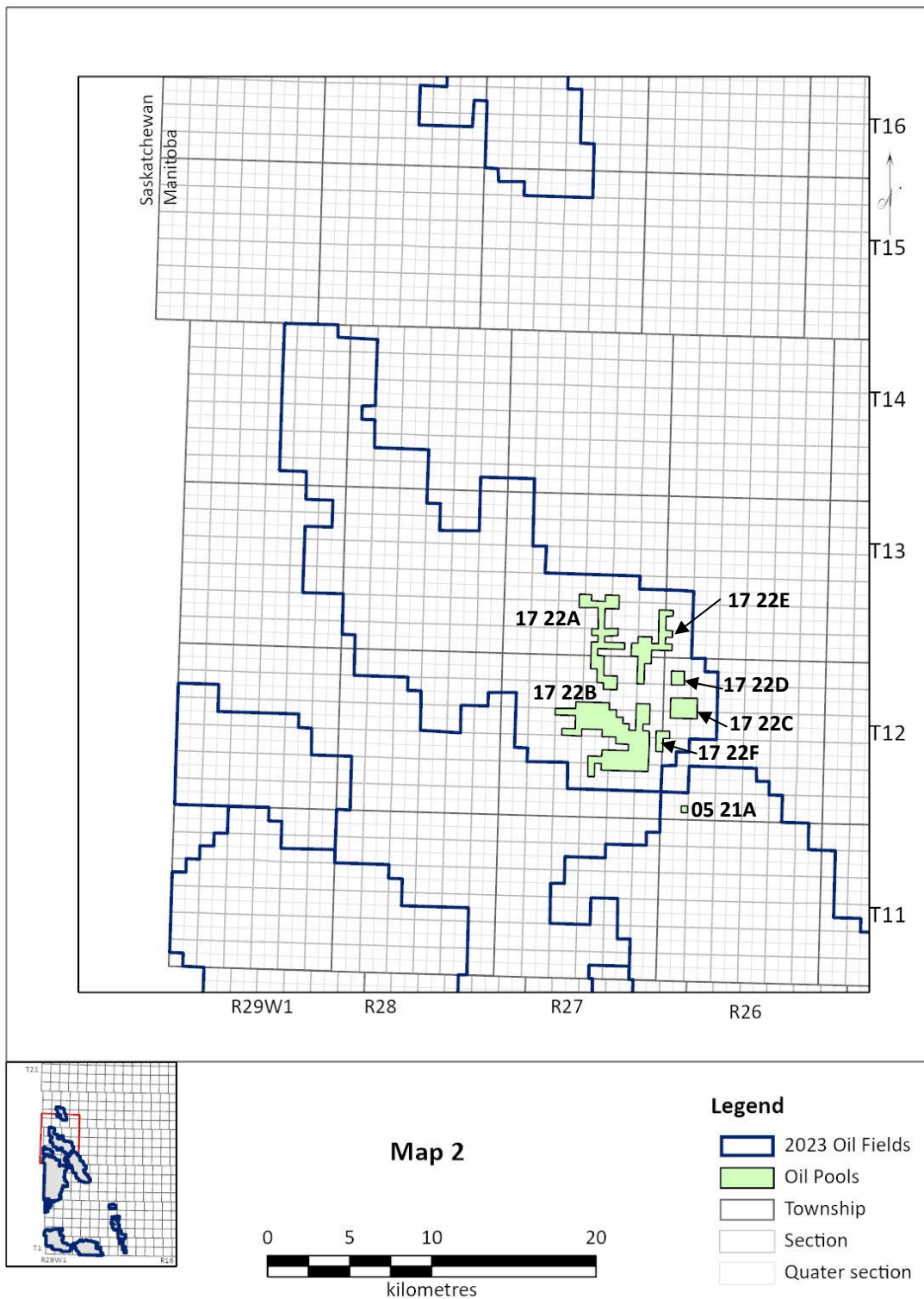


Figure 12: Map 2; Reston Formation (21) & Reston-Amaranth-Lodgepole formations pools (22).

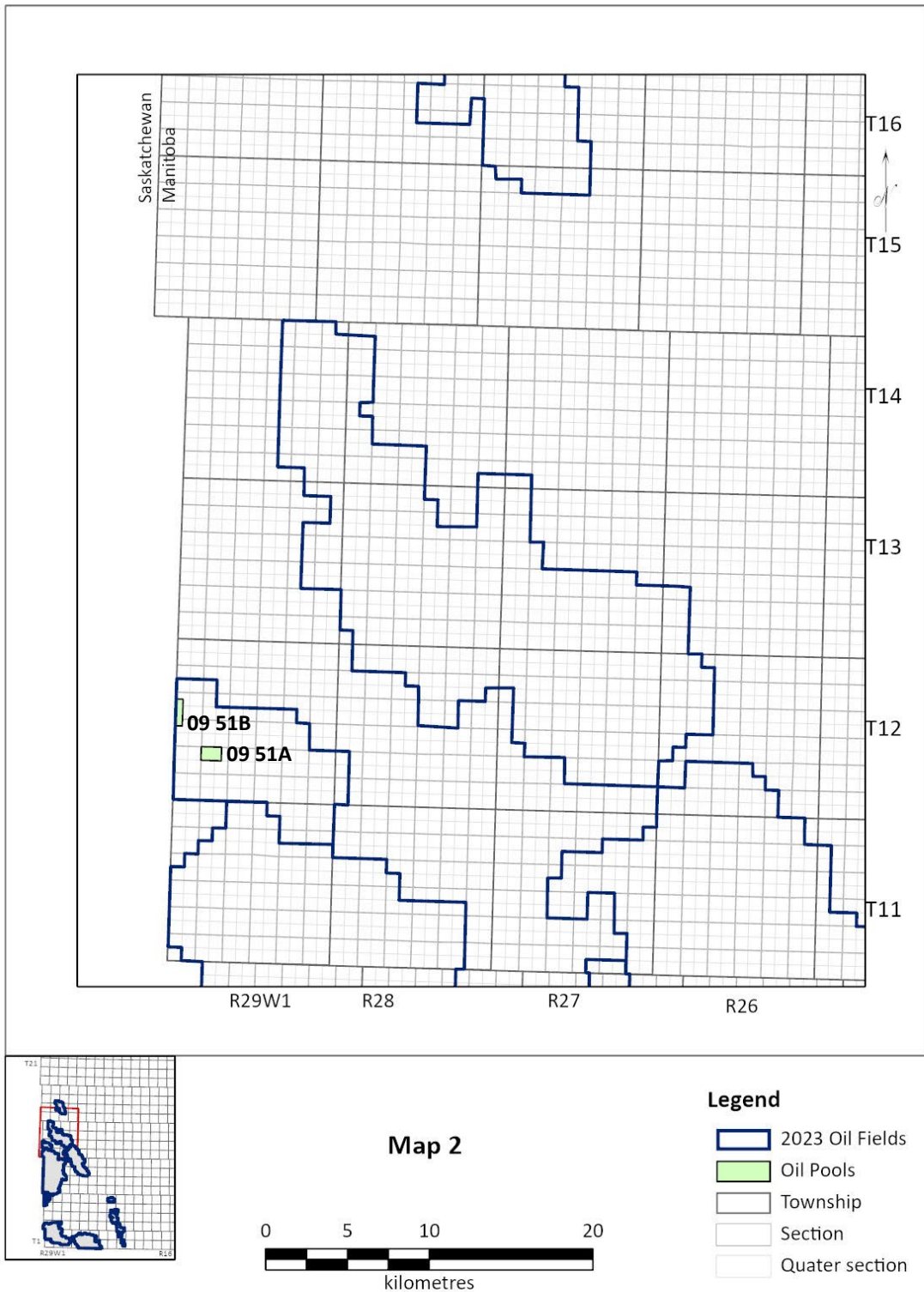


Figure 13: Map 2; Lodgepole dolomite pools (51).

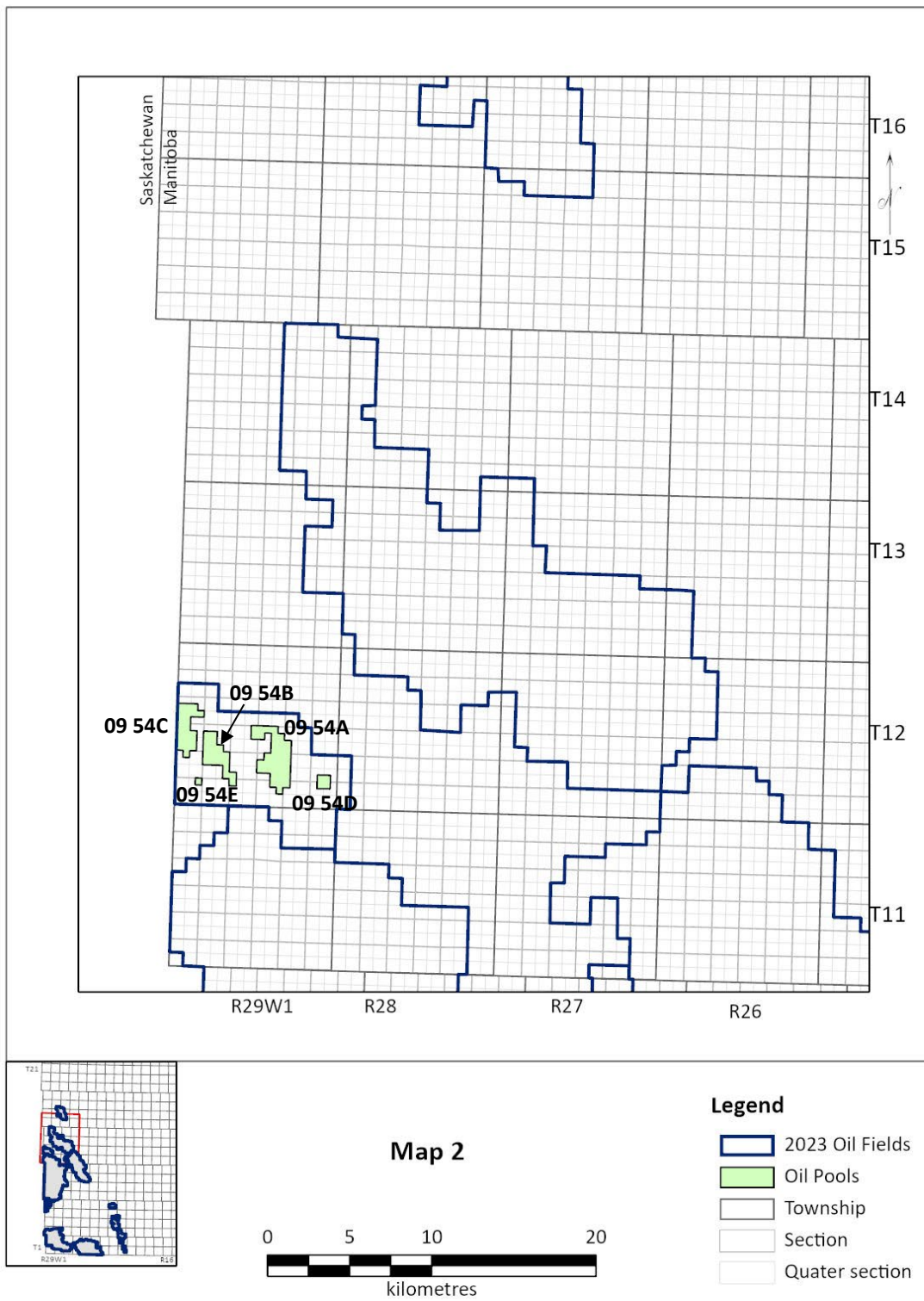


Figure 14: Map 2; Lodgepole Formation Daly Member pools (54).

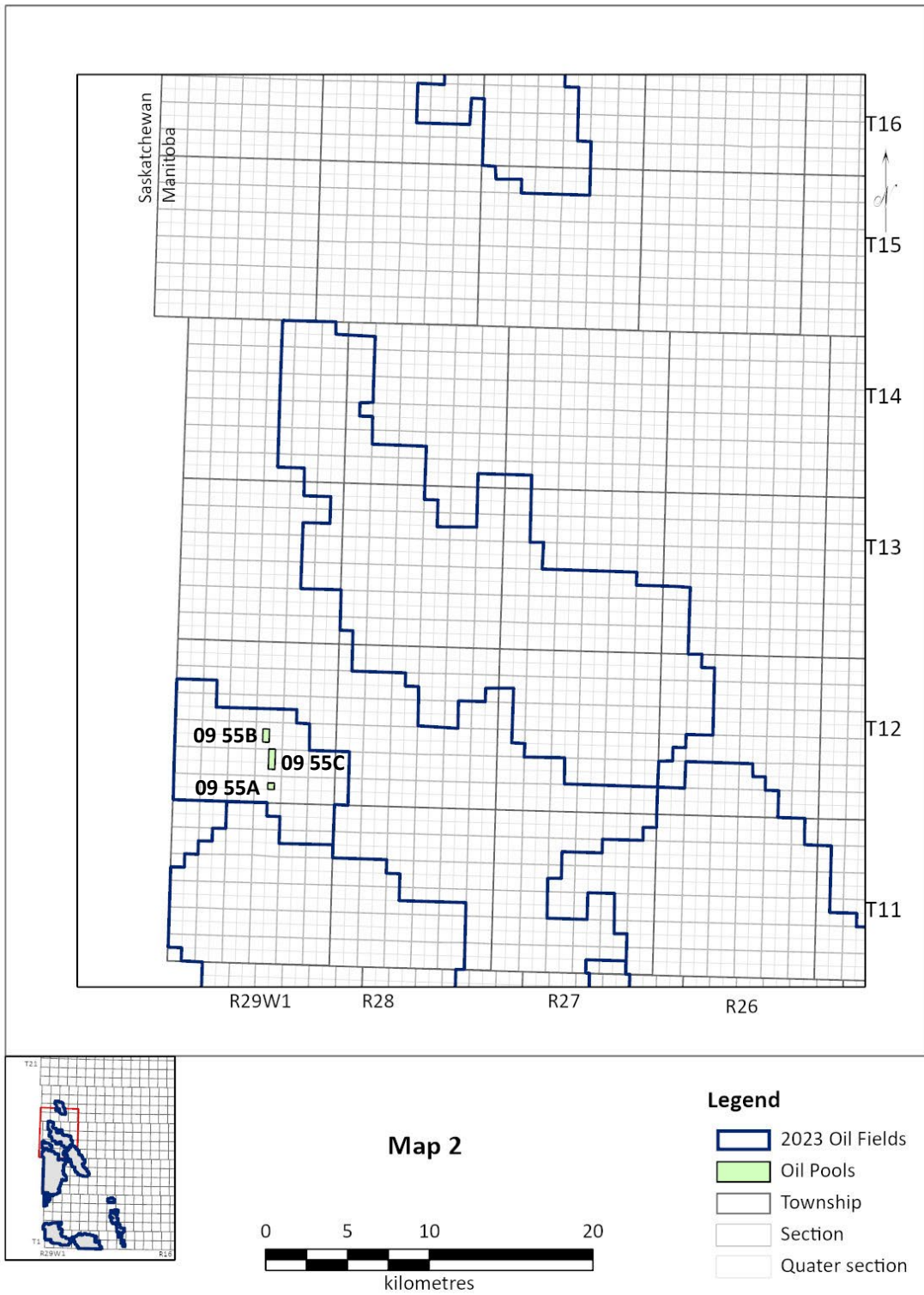


Figure 15: Map 2; Lodgepole Formation Cruikshank Crinoidal Member pools (55).

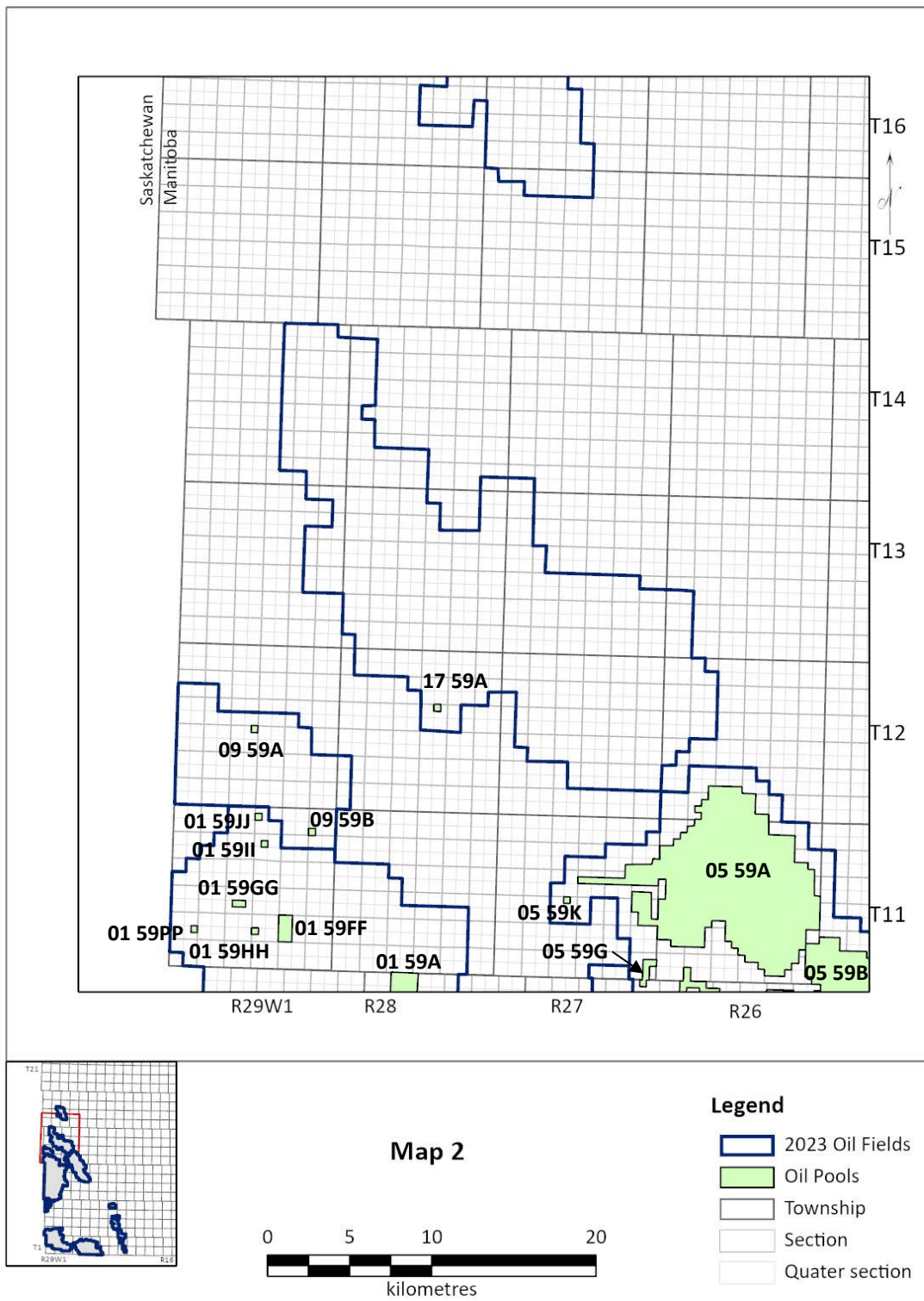


Figure 16: Map 2; Lodgepole Formation undifferentiated pools (59).

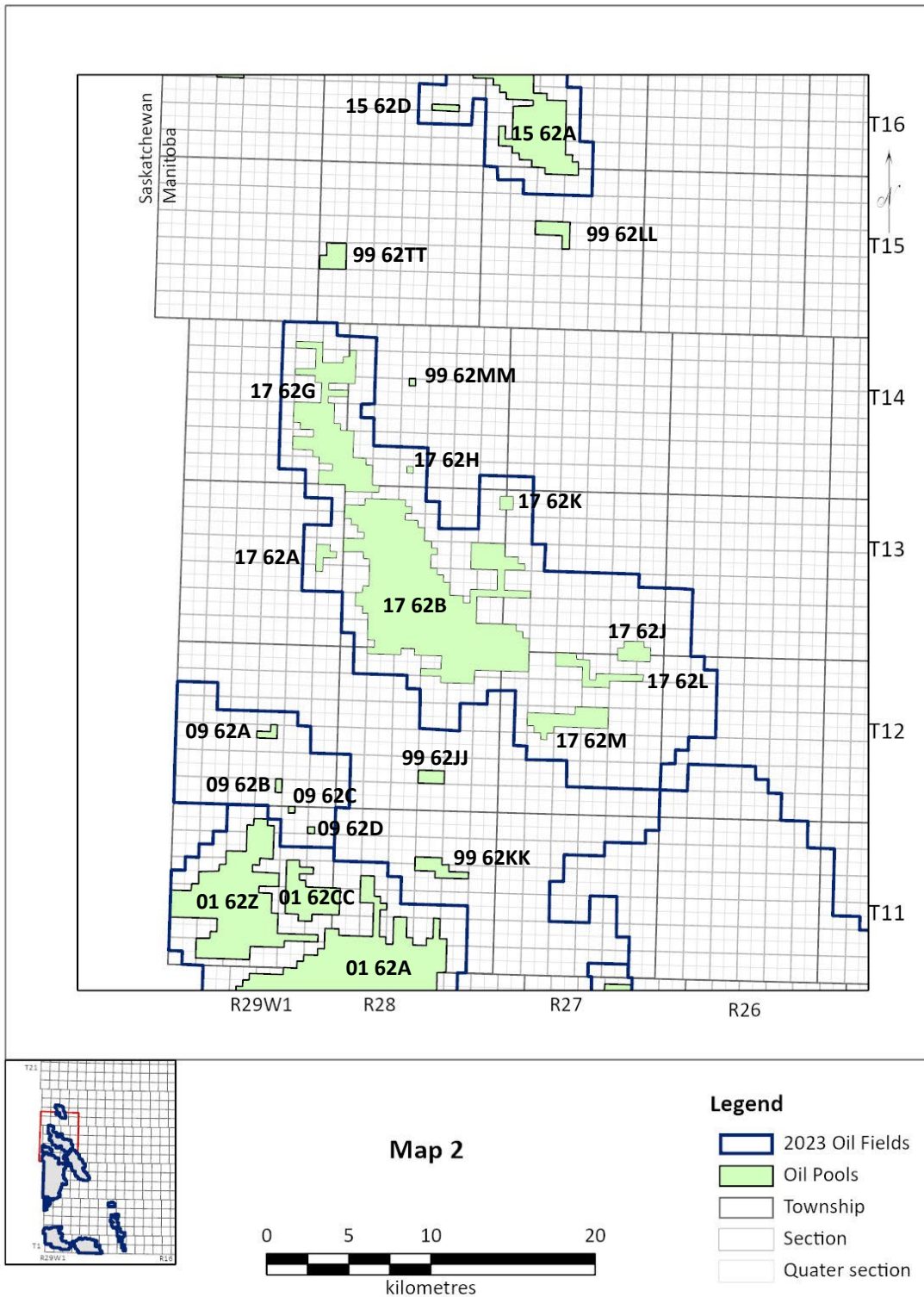


Figure 17: Map 2; Bakken-Torquay formation pools (60 & 62).

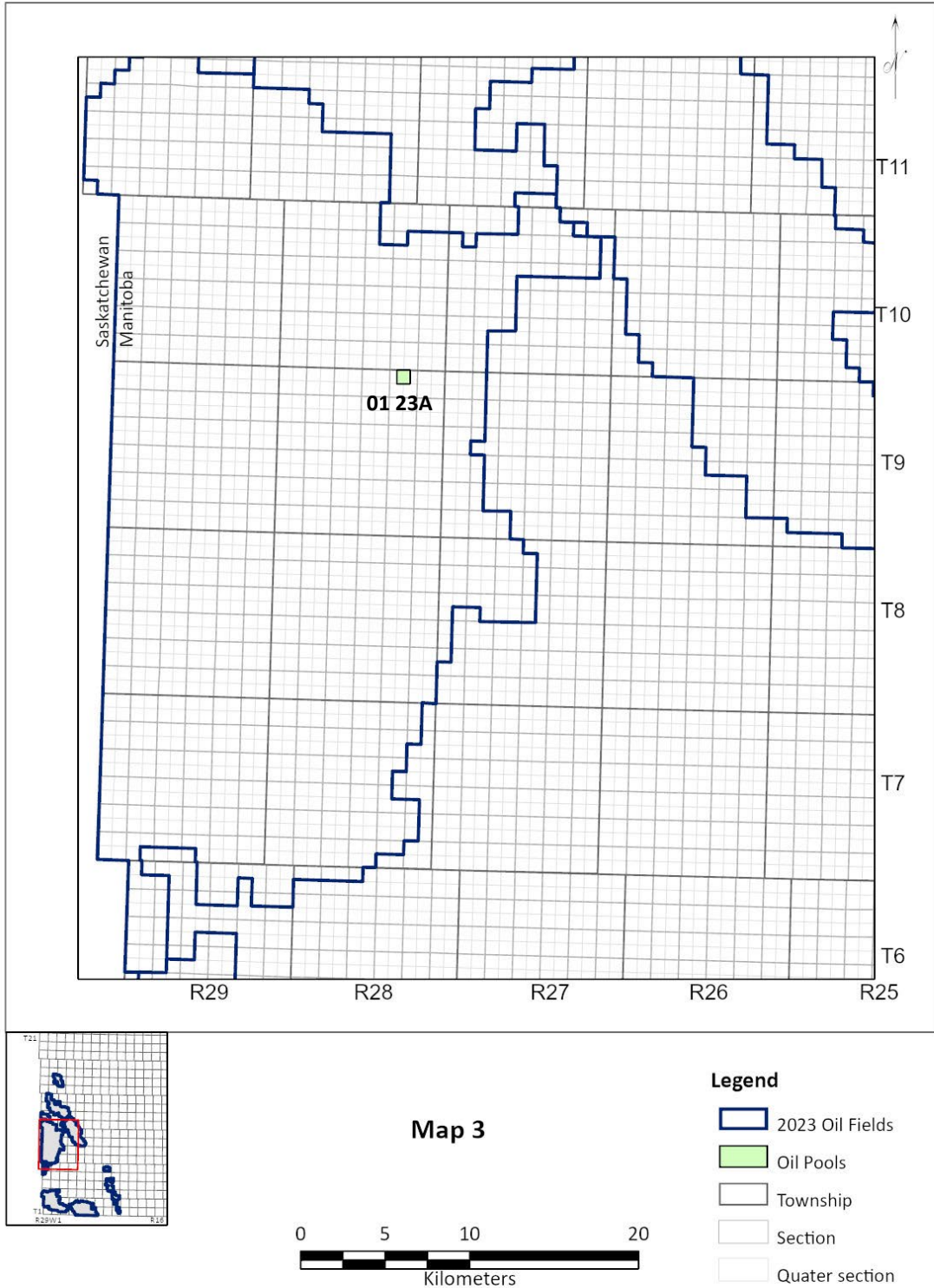


Figure 18: Map 3; Amaranth Formation Upper Amaranth Member pools (23).

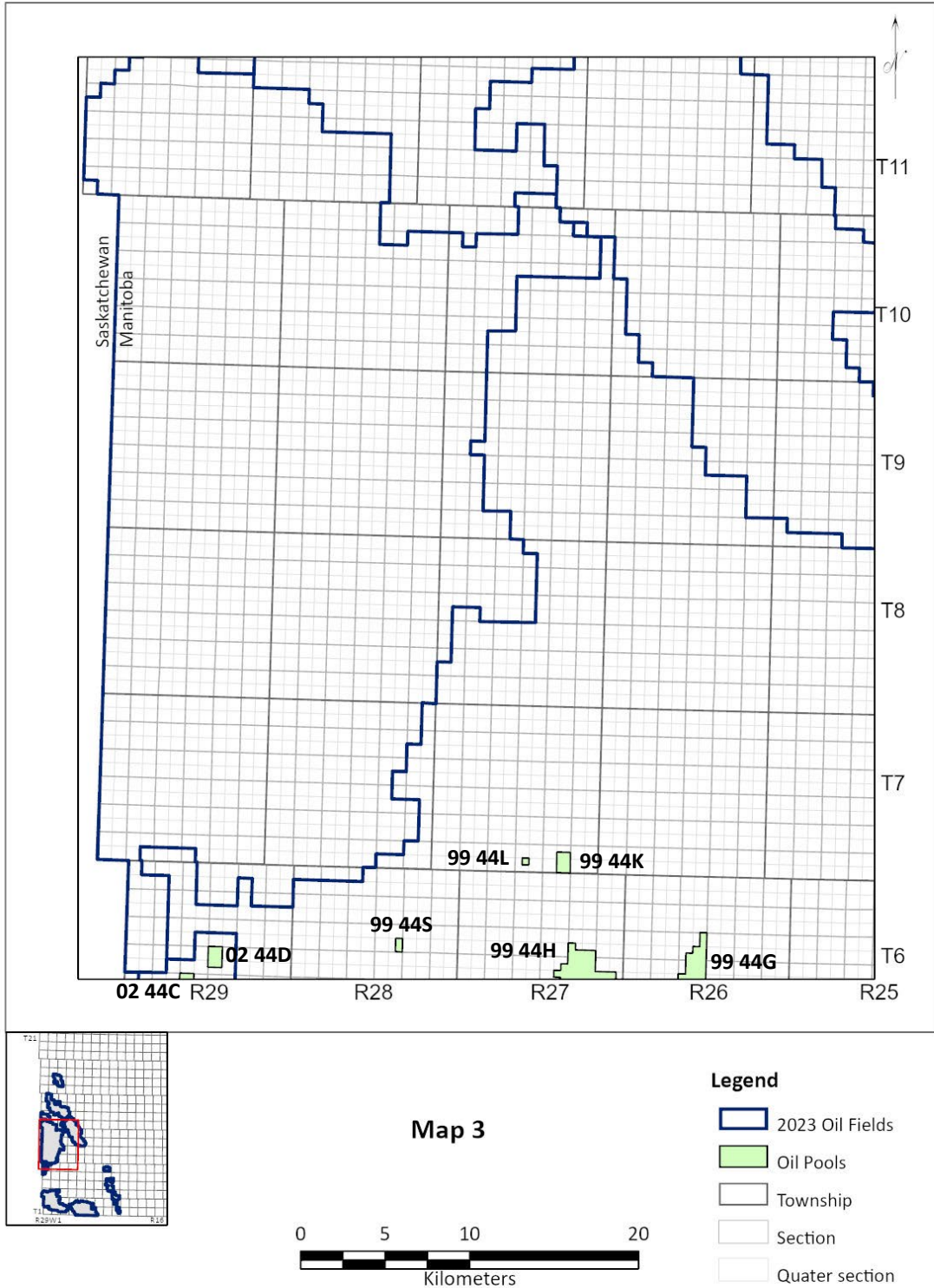
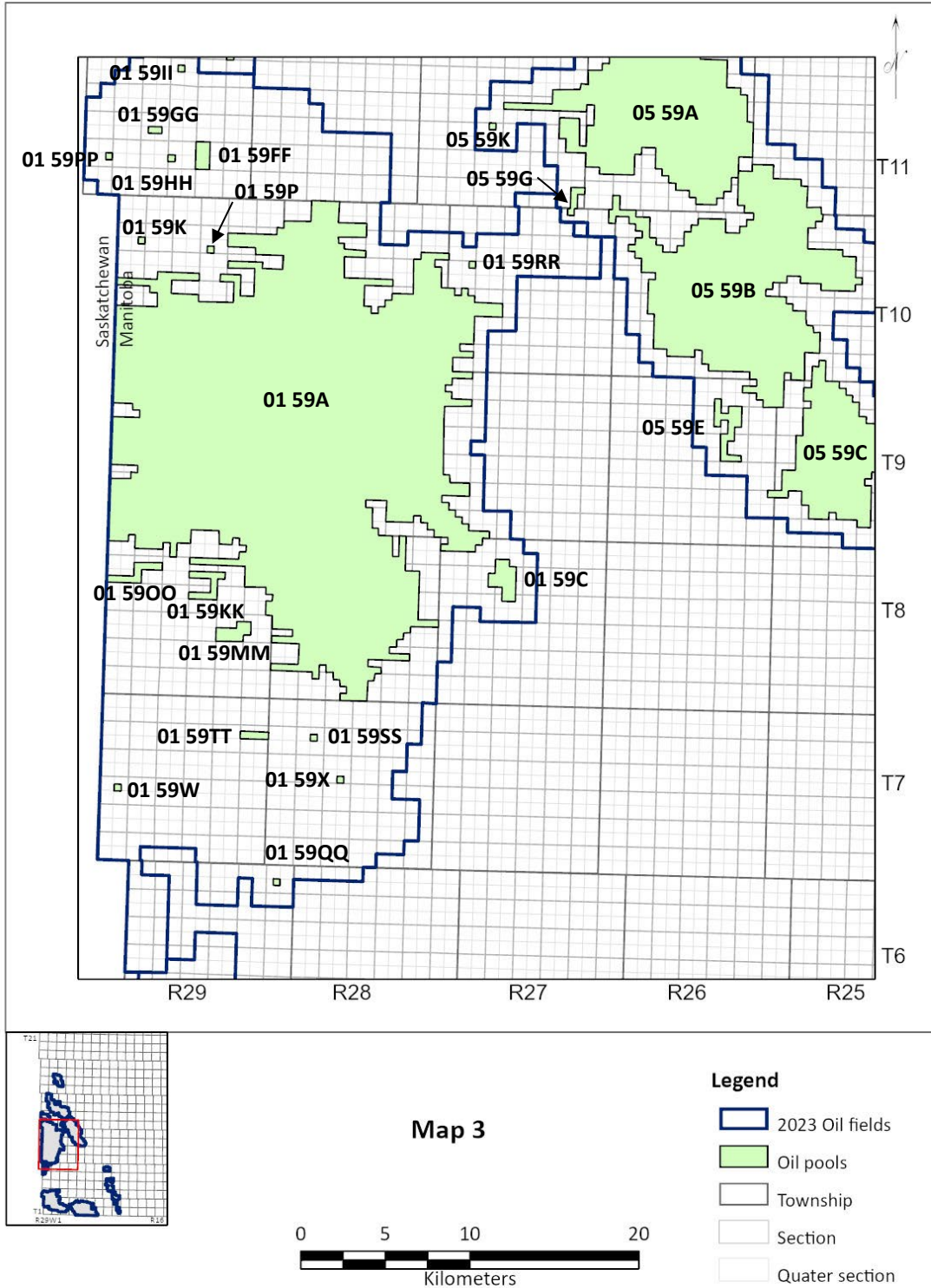


Figure 19: Map 3; Mission Canyon Formation MC-1 Member pools (44).



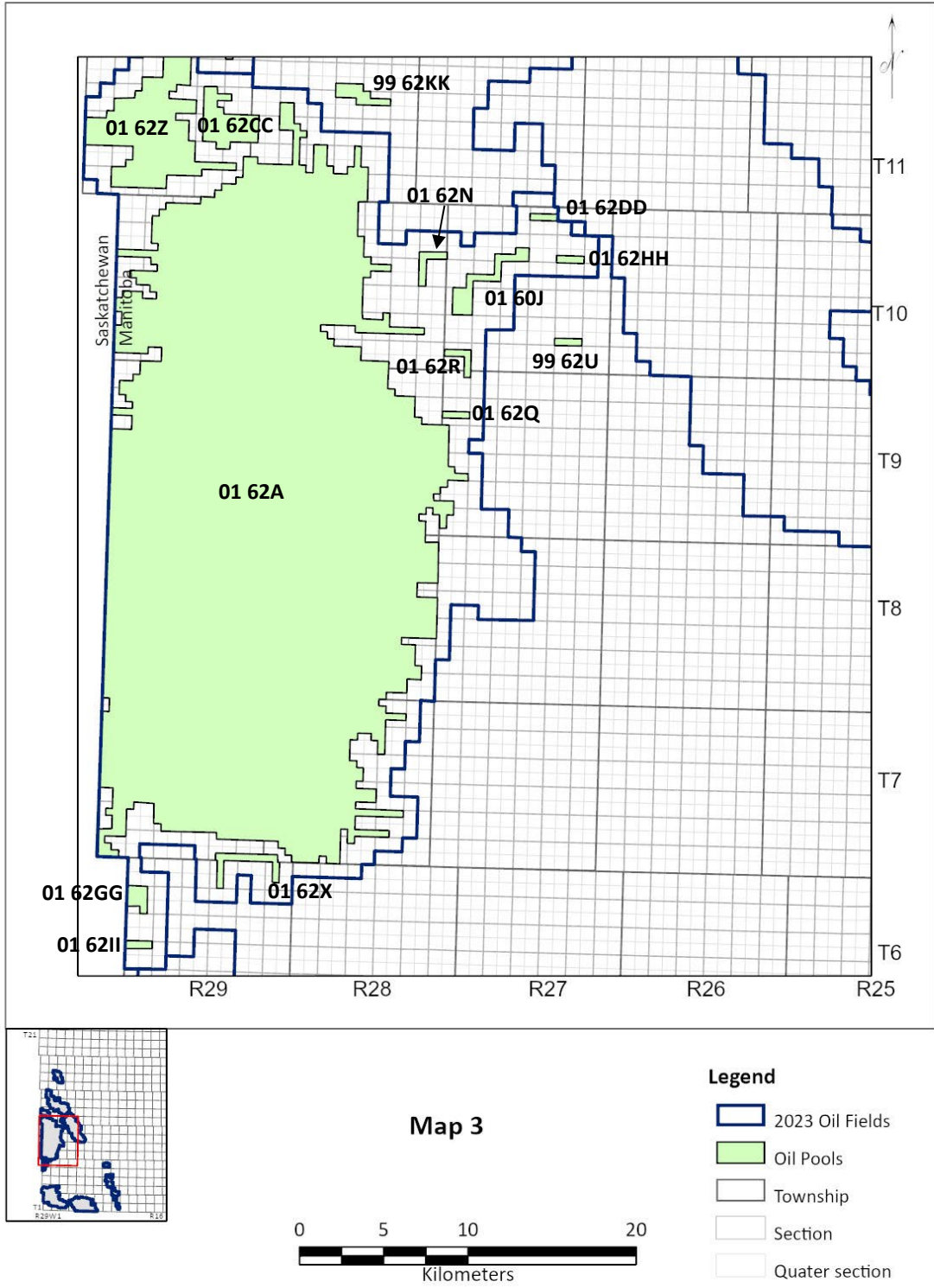


Figure 21: Map 3; Bakken & Bakken-Torquay formation pools (60 & 62).

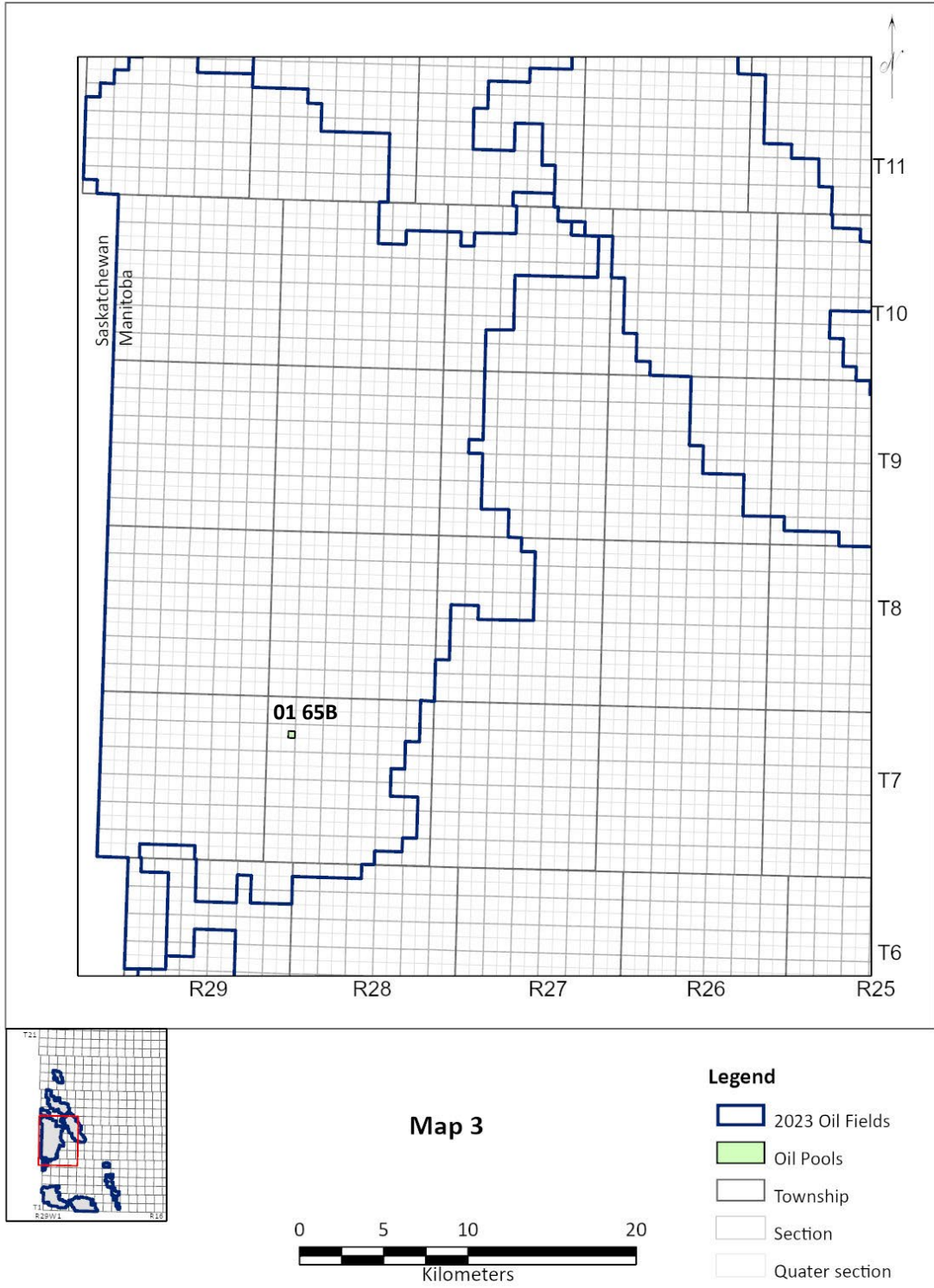


Figure 22: Map 3; Torquay Formation pools (65).

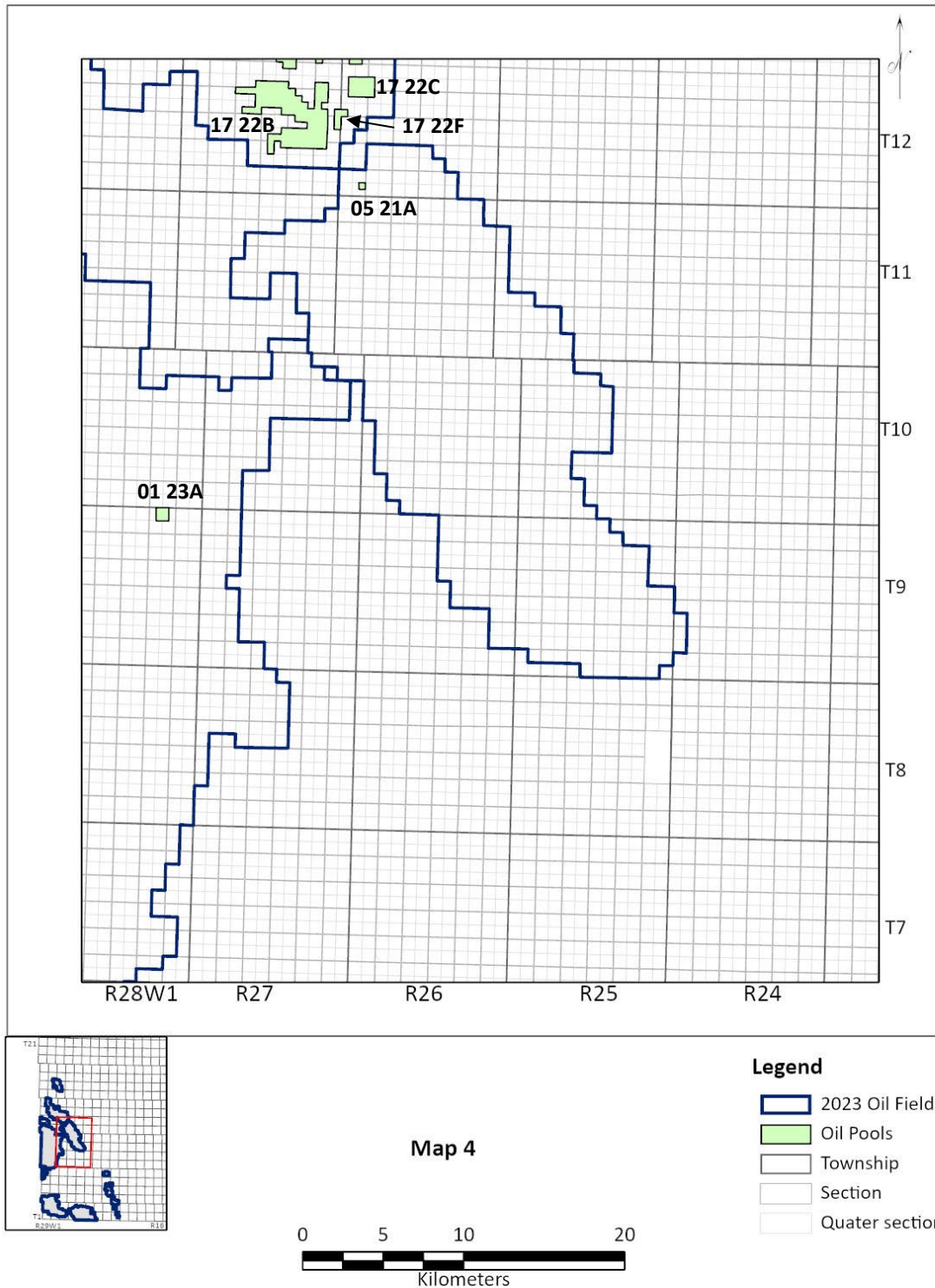


Figure 23: Map 4; Reston Formation (21), Reston-Amaranth-Lodgepole (22) formations, & Amaranth Formation Upper Amaranth Member pools (23).

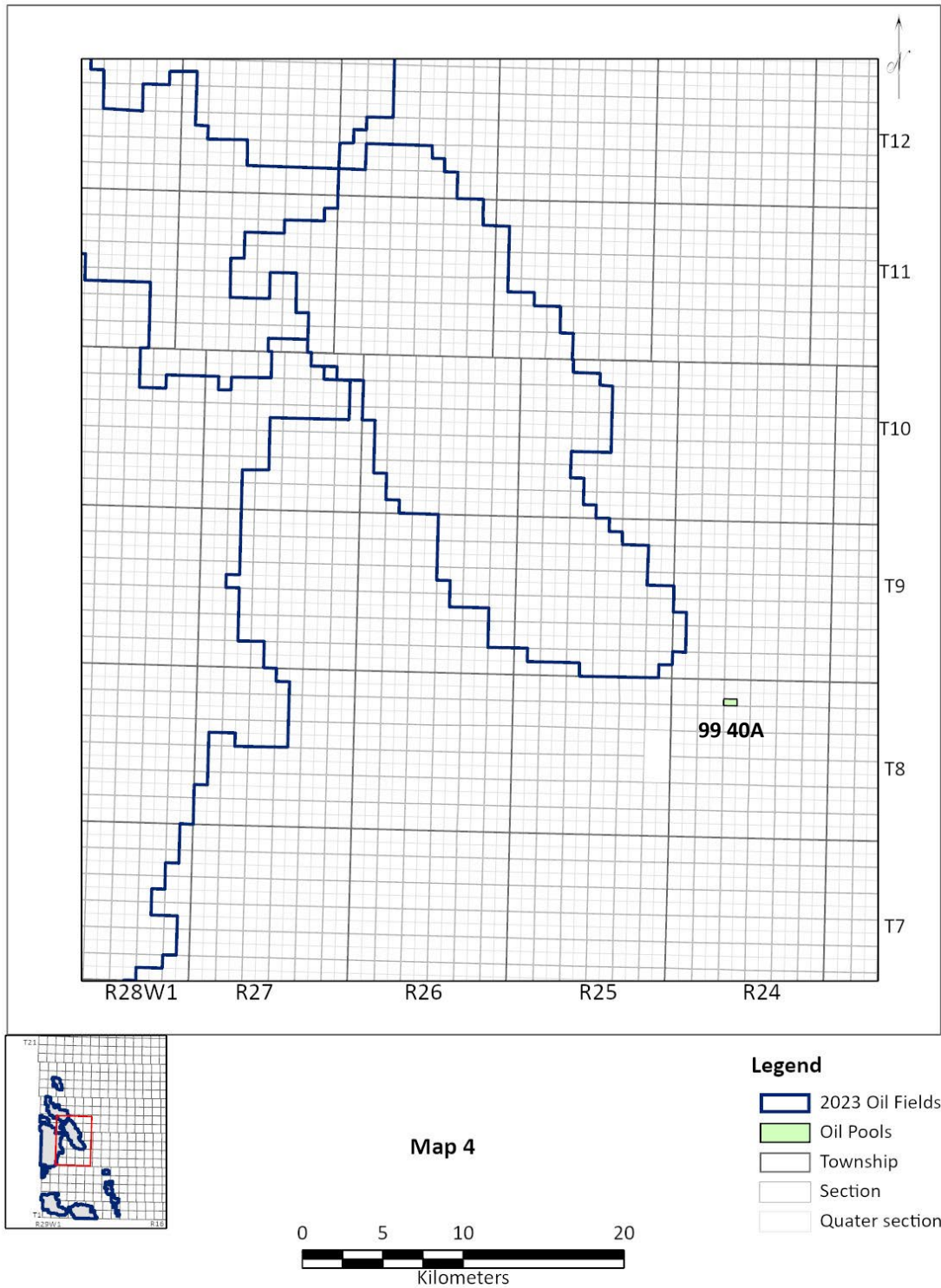


Figure 24: Map 4; Amaranth Formation Lower Amaranth Member-Lodgepole Formation undifferentiated pools (40).

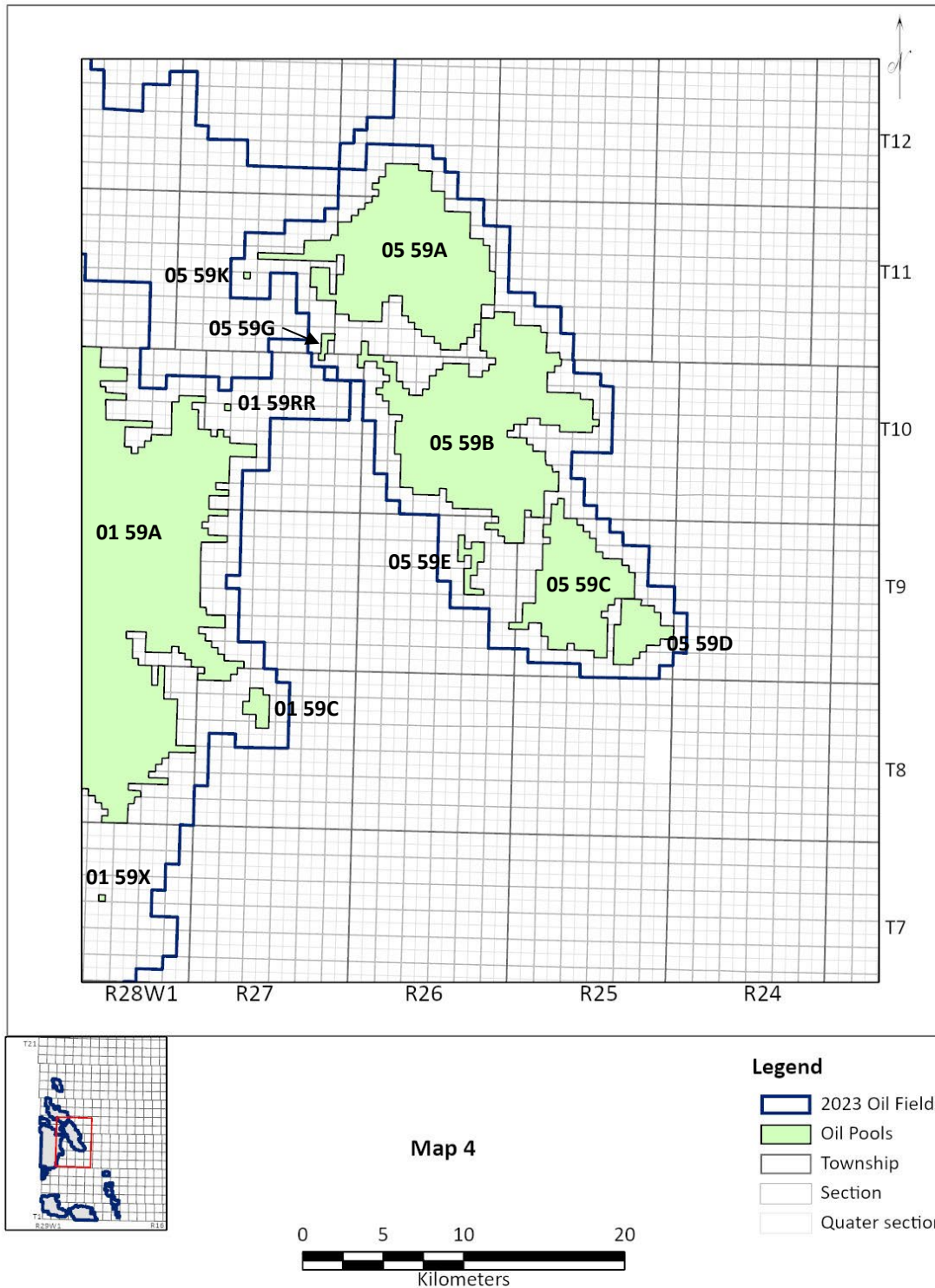


Figure 25: Map 4; Lodgepole Formation undifferentiated pools (59).

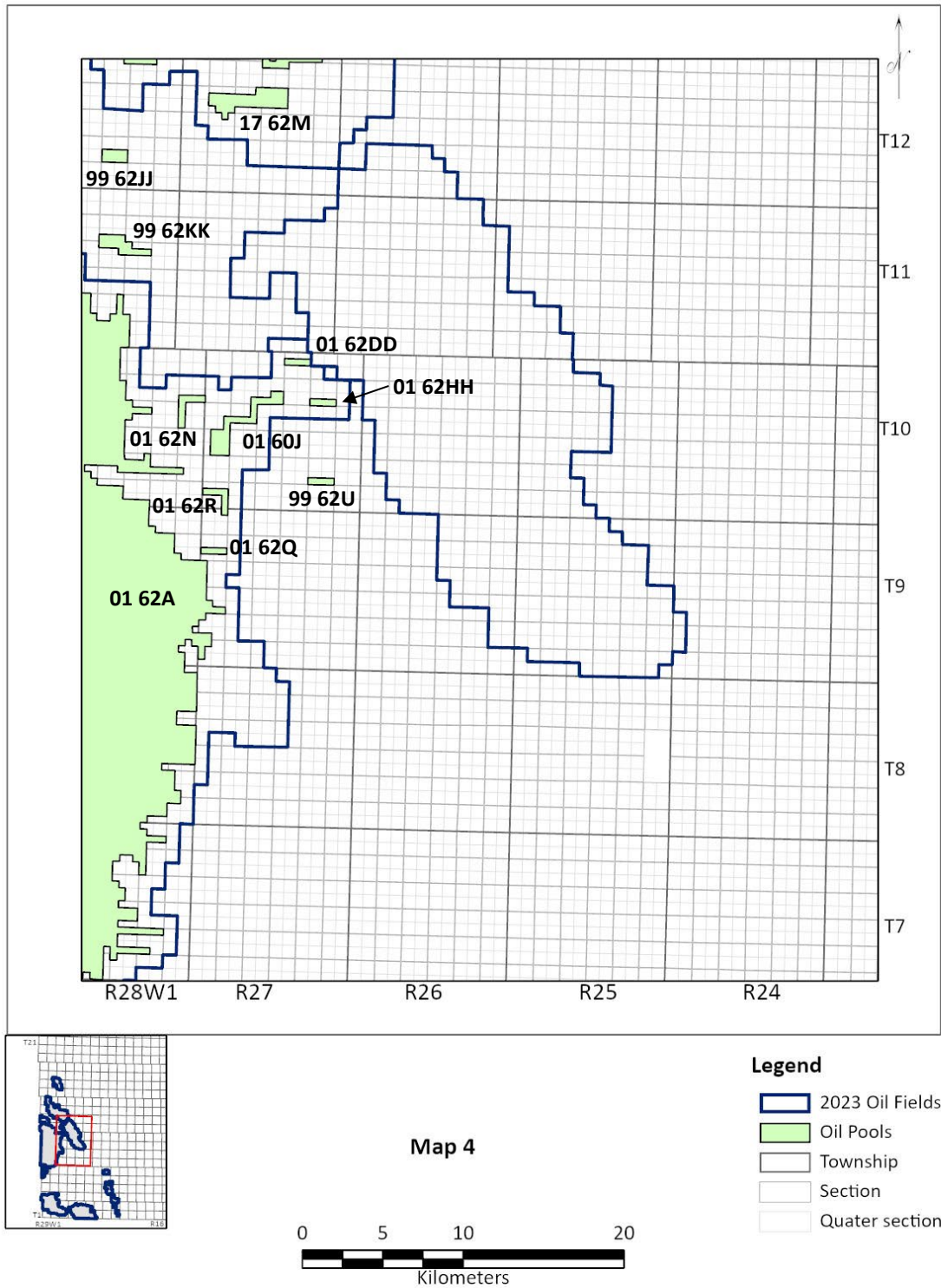


Figure 26: Map 4; Bakken & Bakken-Torquay formation pools (60 & 62).

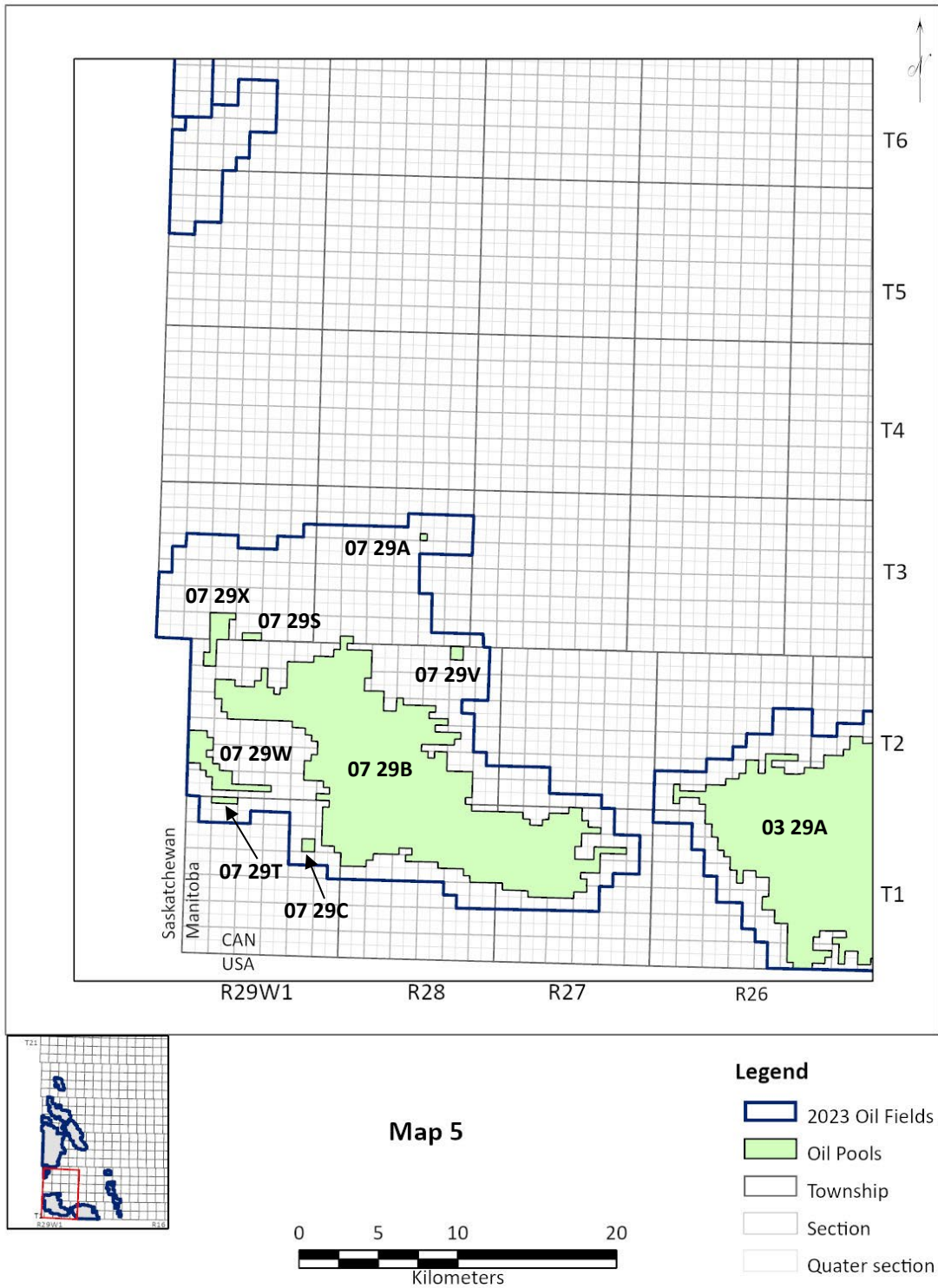


Figure 27: Map 5; Amaranth Formation Lower Amaranth Member pools (29).

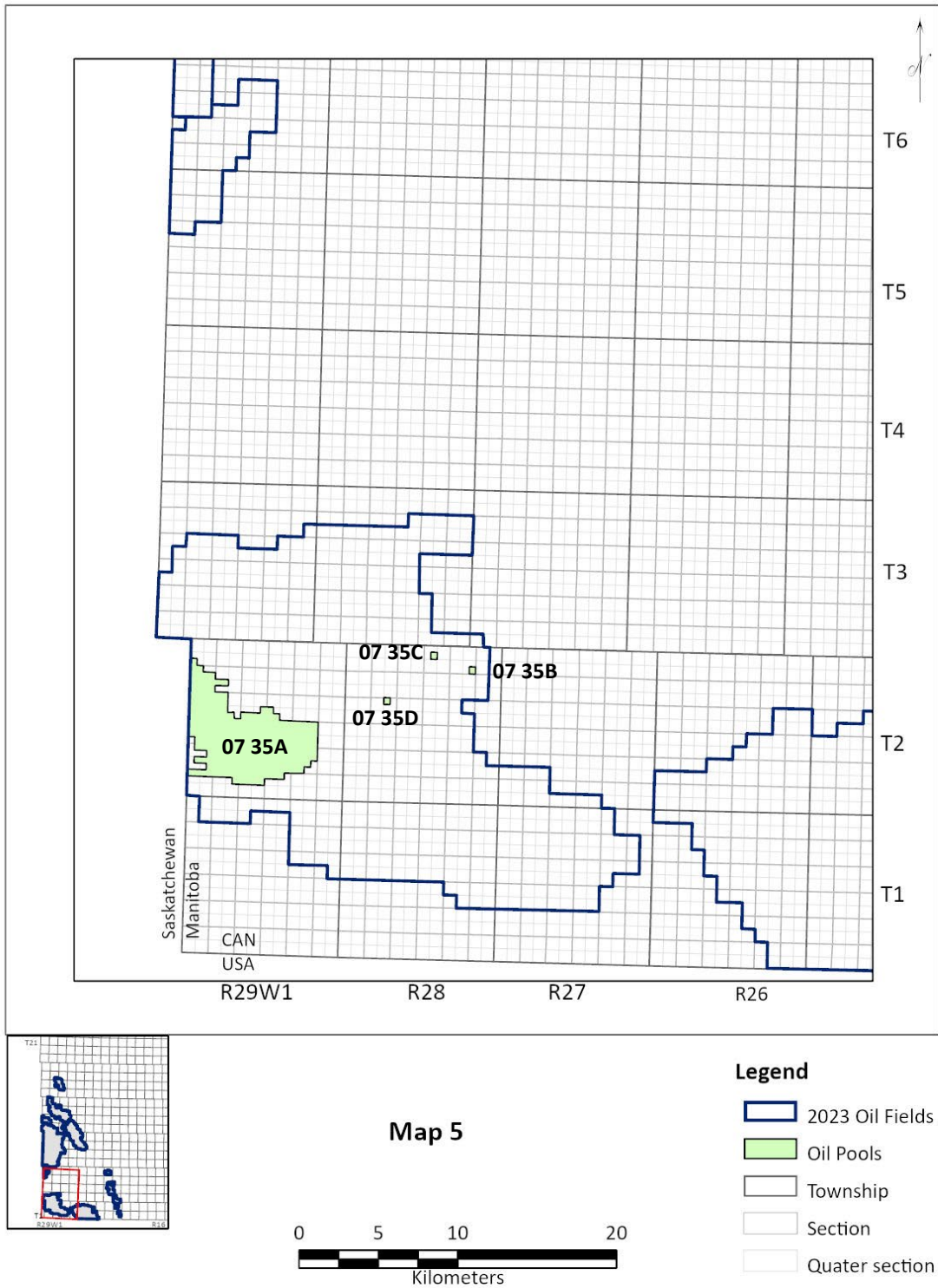
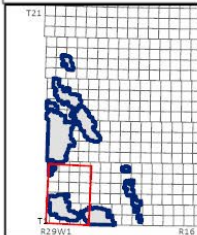
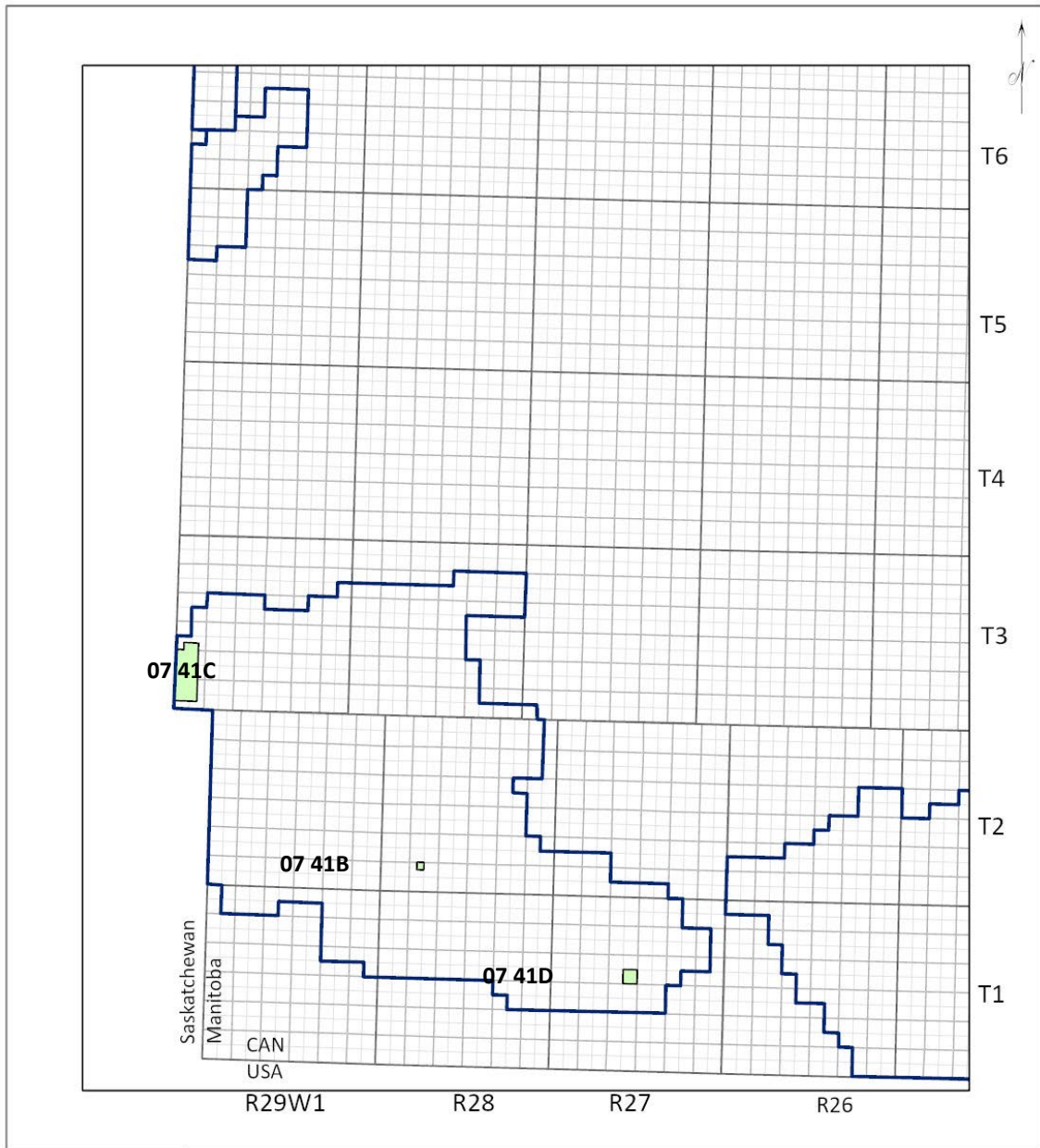
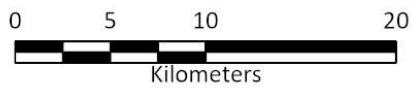


Figure 28: Map 5; Amaranth Formation Lower Amaranth Member-Mission Canyon Formation MC-3b Member pools (35).



Map 5



Legend

- 2023 Oil Fields
- Oil Pools
- Township
- Section
- Quater section

Figure 29: Map 5; Mission Canyon Formation MC-3 Member pools (41).

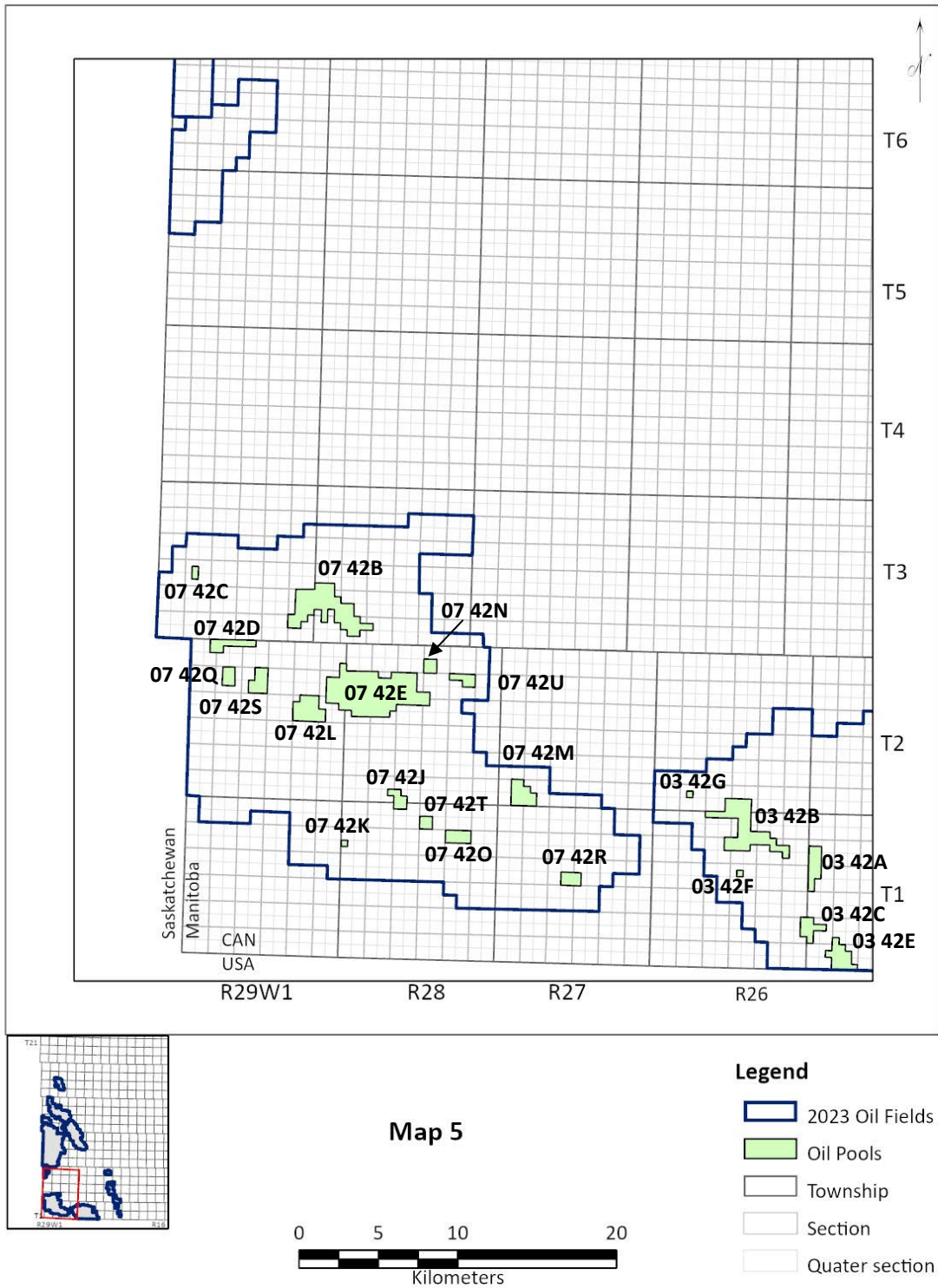


Figure 30: Map 5; Mission Canyon Formation MC-3b Member pools (42).

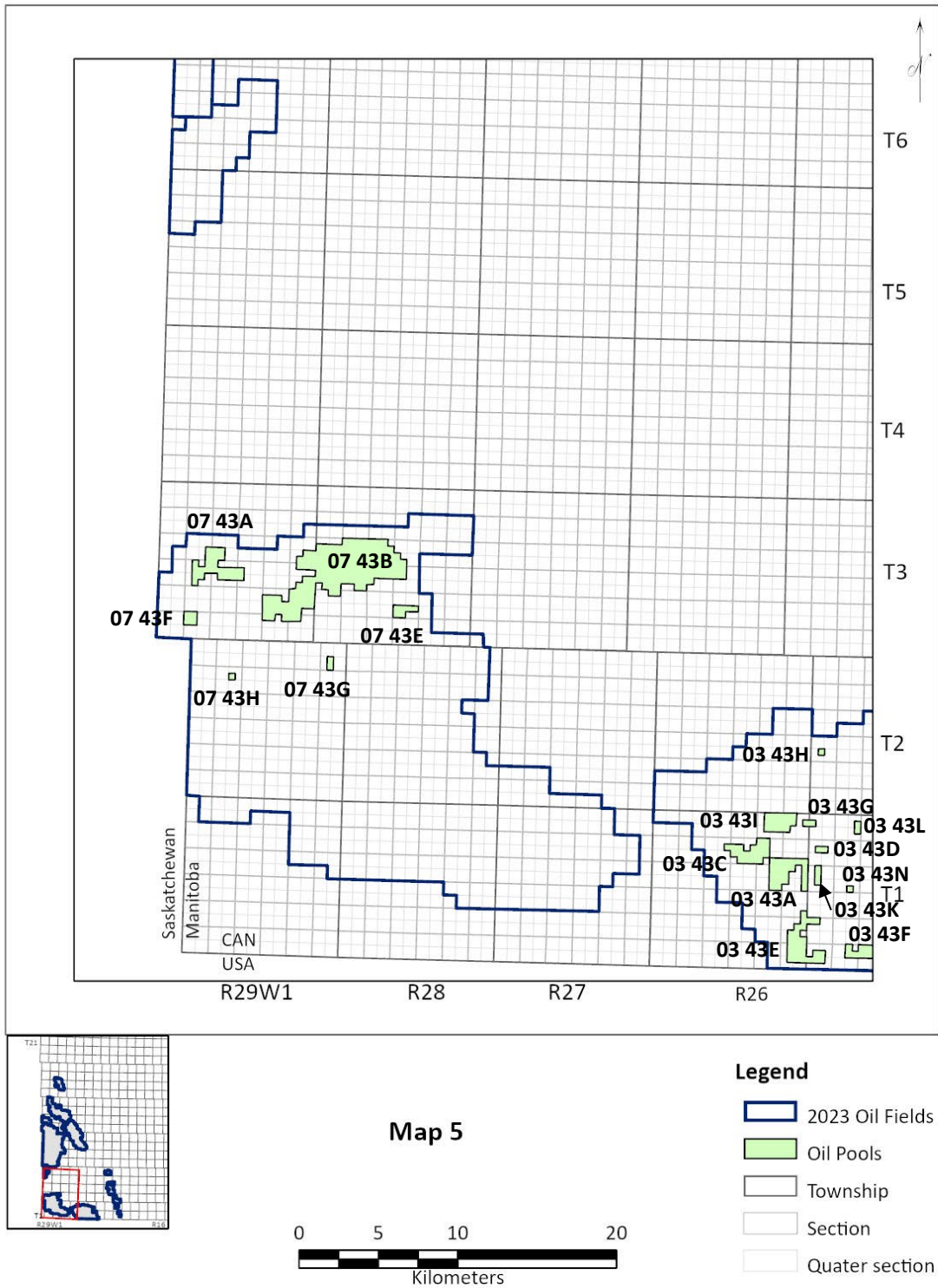


Figure 31: Map 5 Mission Canyon Formation MC-3a Member pools (43).

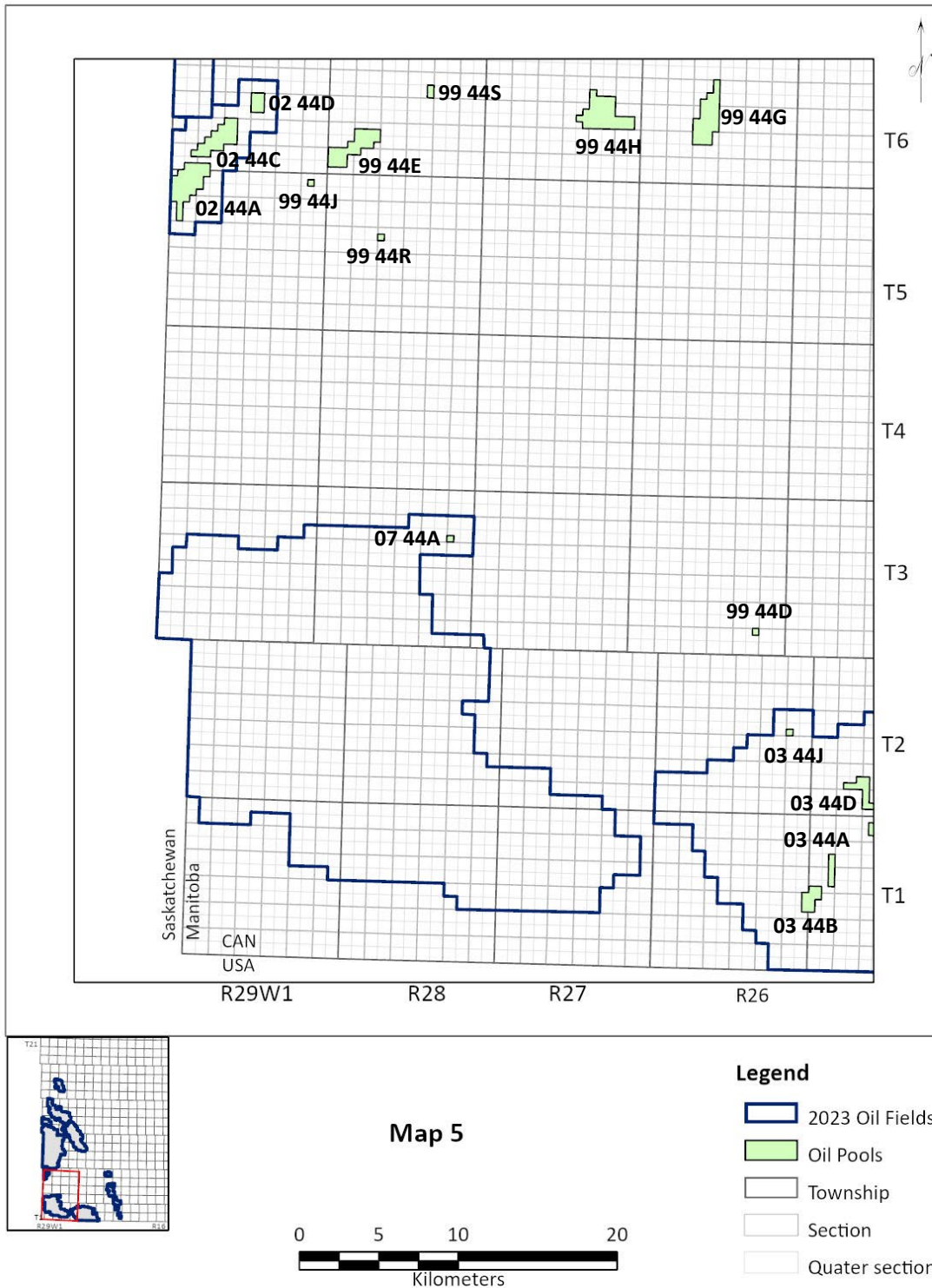


Figure 32: Map 5; Mission Canyon Formation MC-1 Member pools (44).

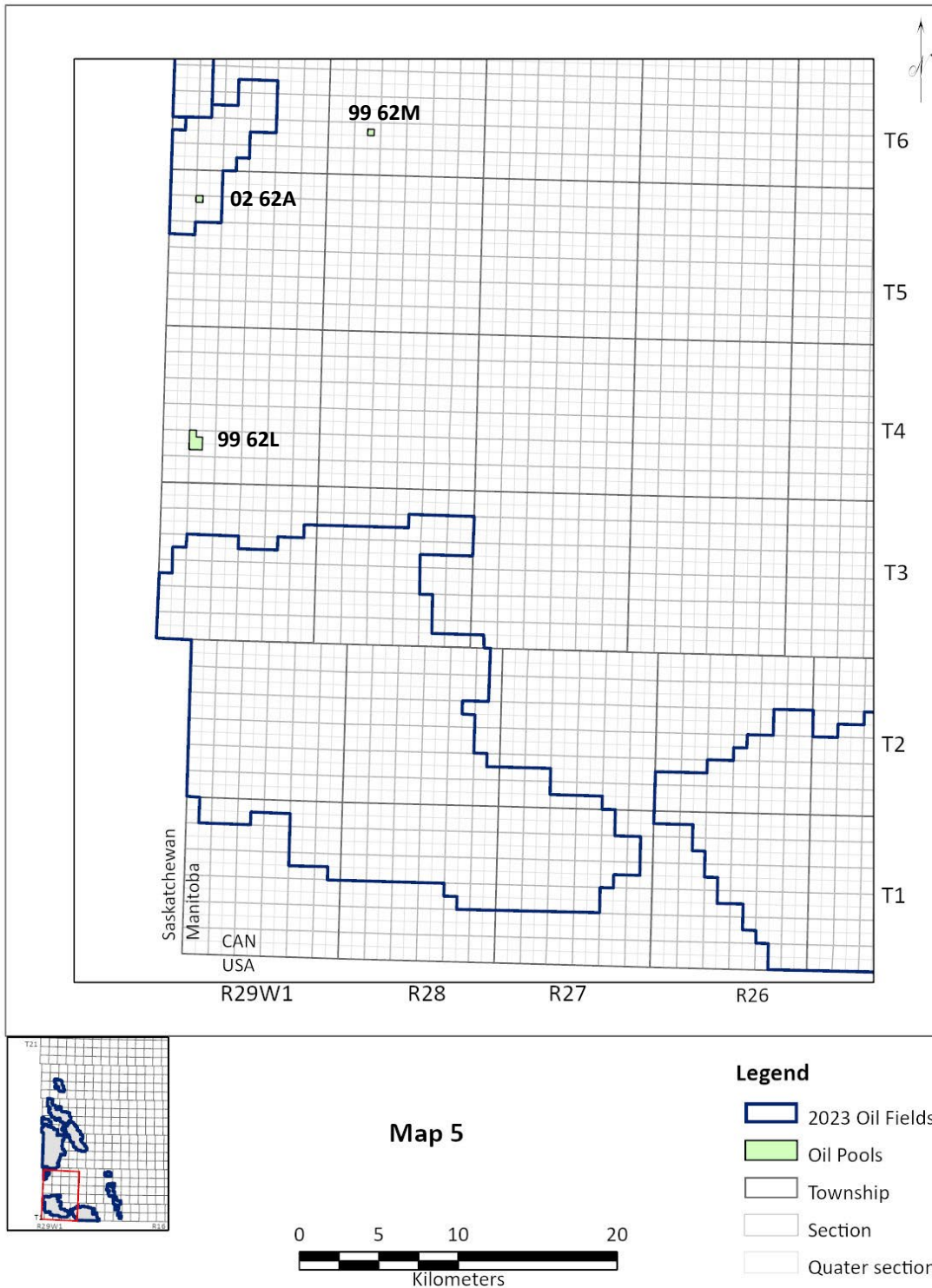


Figure 33: Map 5; Bakken-Torquay formation pools (62).

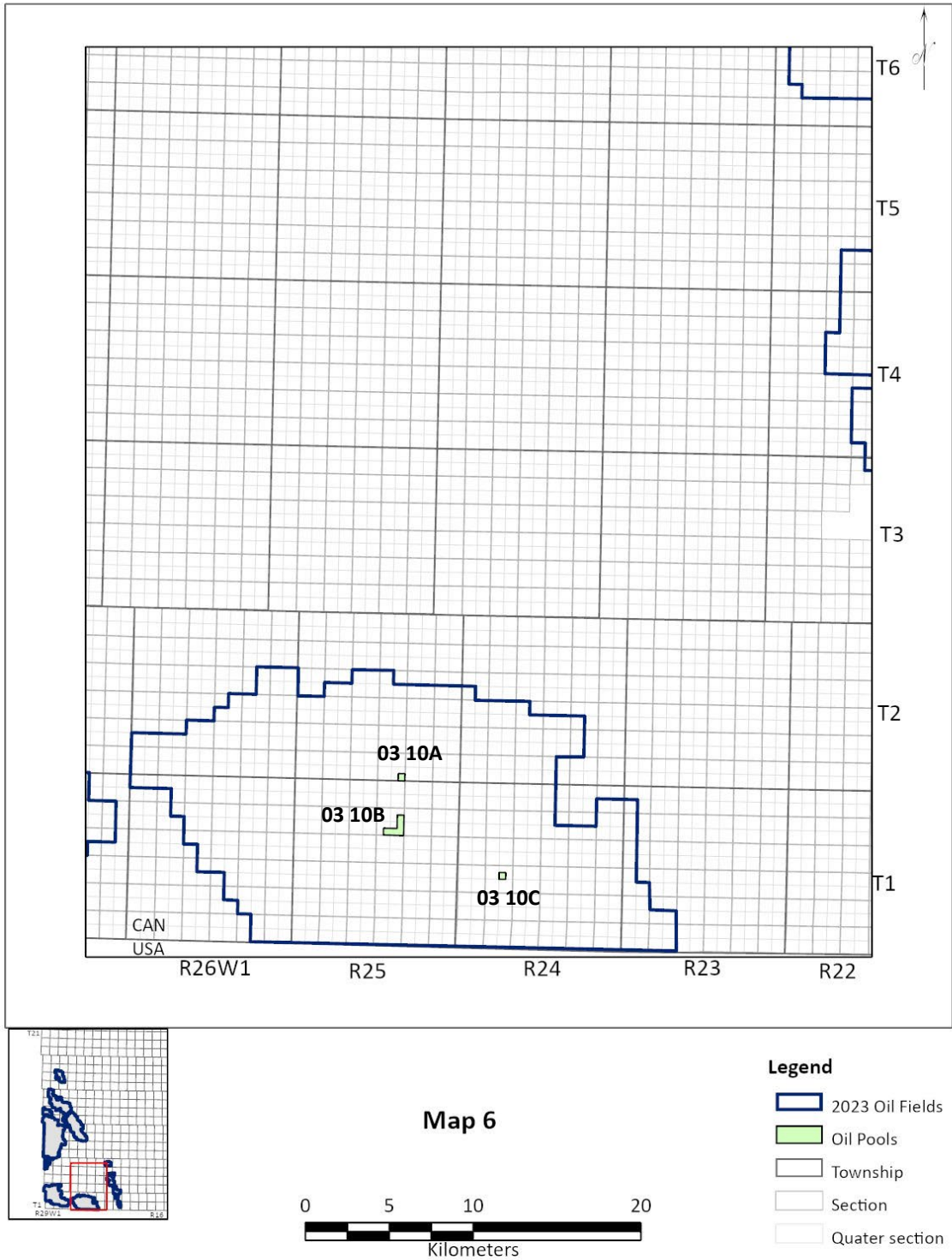
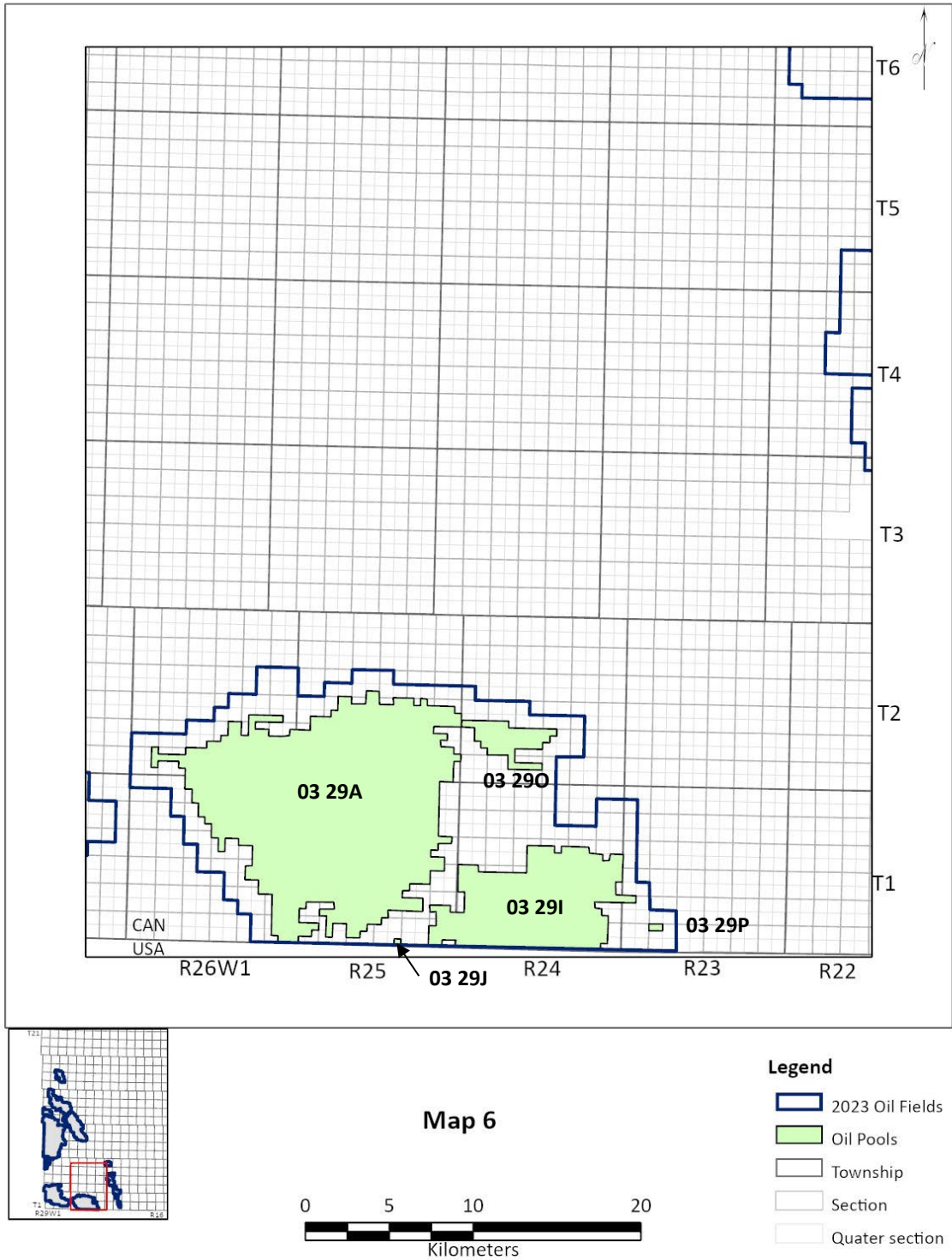


Figure 34: Map 6; Favel Formation pools (10).



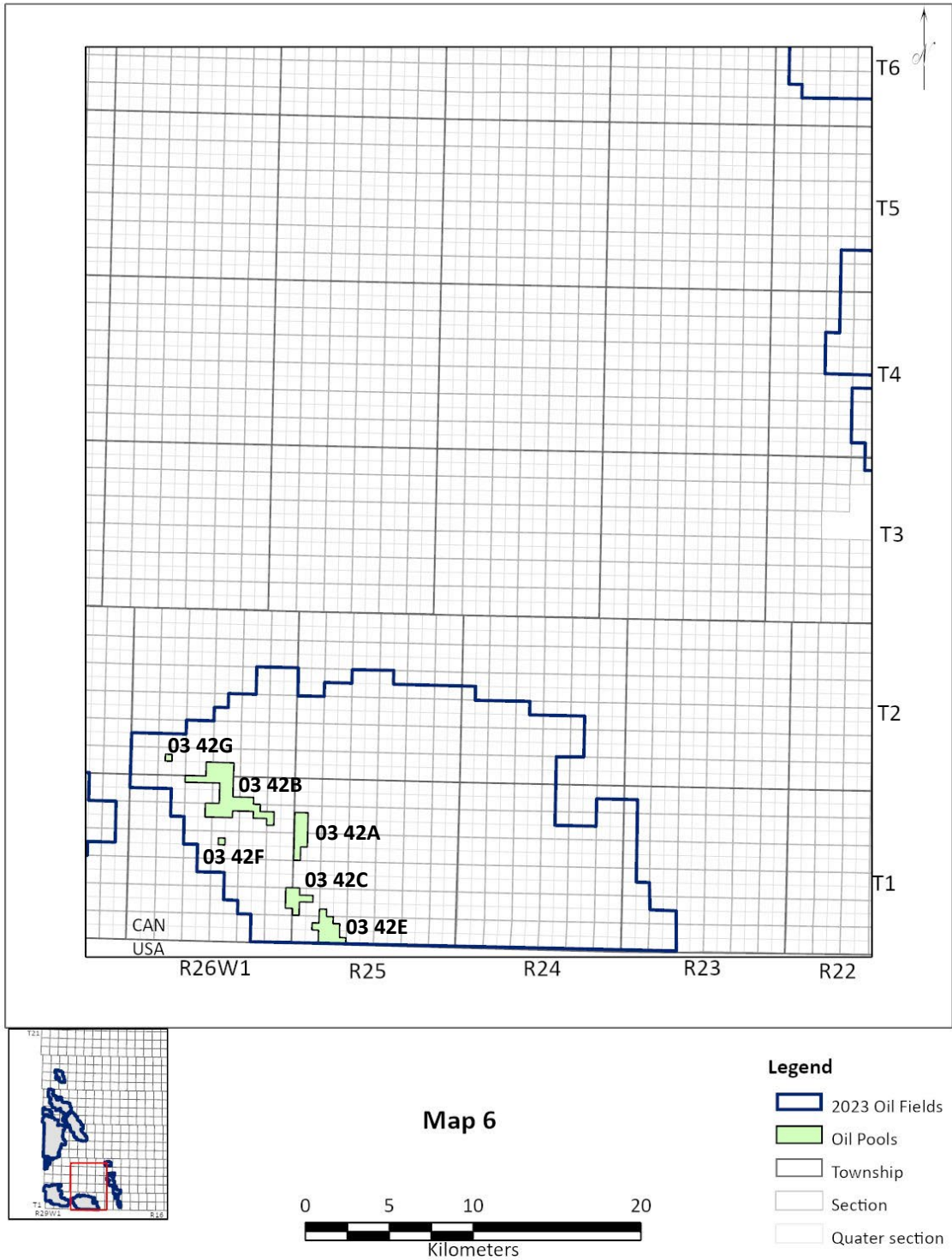


Figure 36: Map 6; Mission Canyon Formation MC-3b Member pools (42).

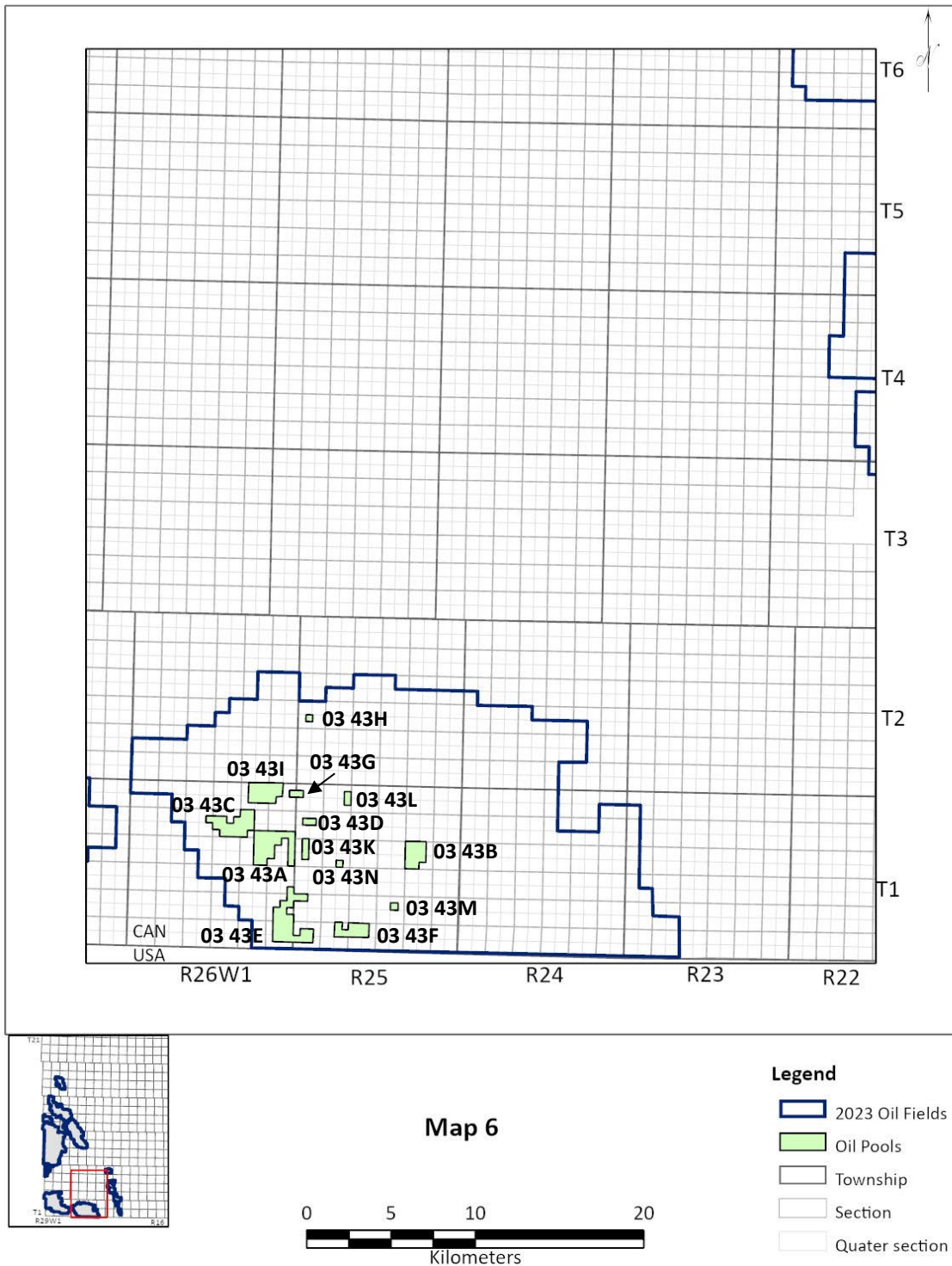


Figure 37: Map 6; Mission Canyon Formation MC-3a Member pools (43).

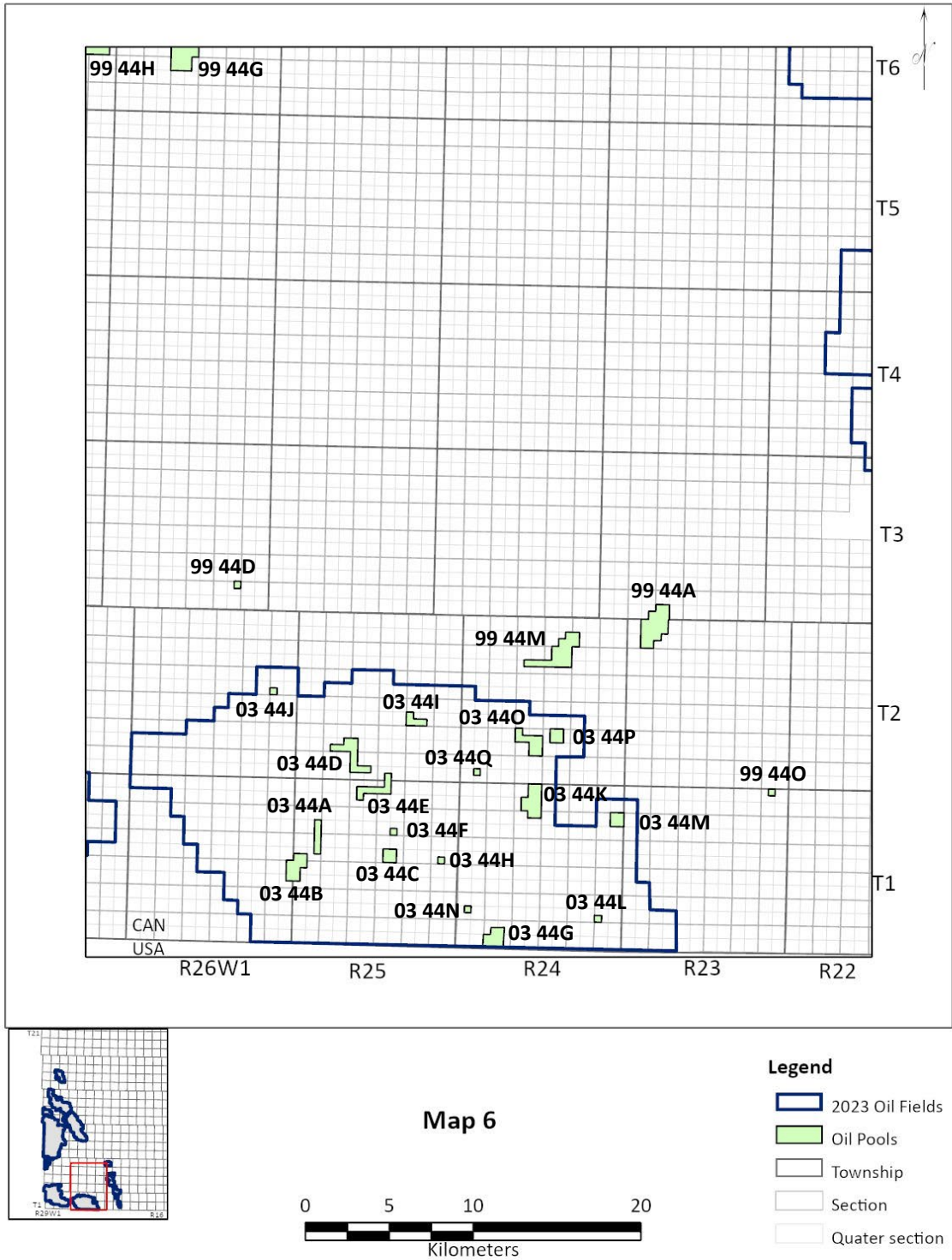


Figure 38: Map 6; Mission Canyon Formation MC-1 Member pools (44).

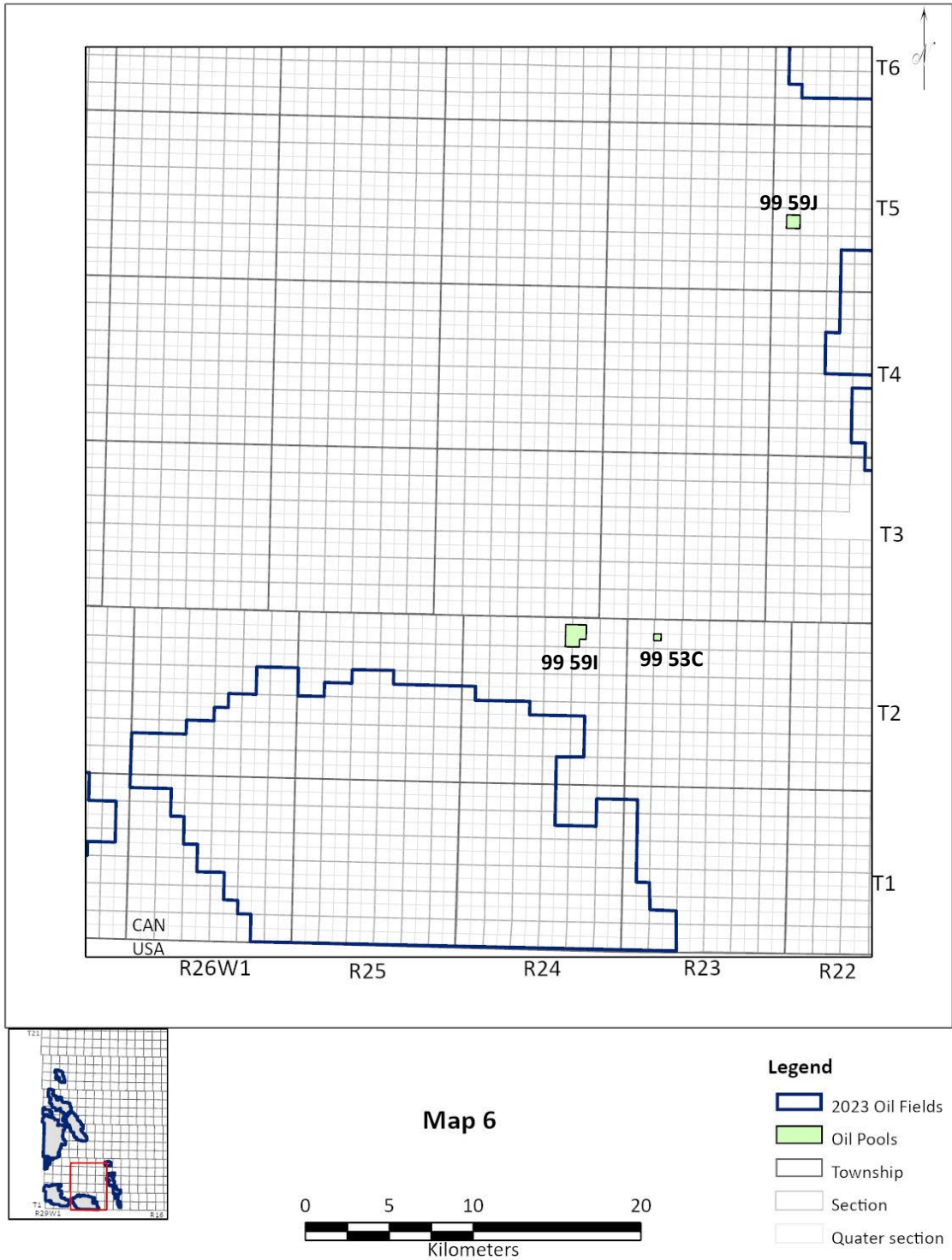


Figure 39: Map 6; Lodgepole Formation Virden Member pools (53) & Lodgepole Formation undifferentiated (59) pools.

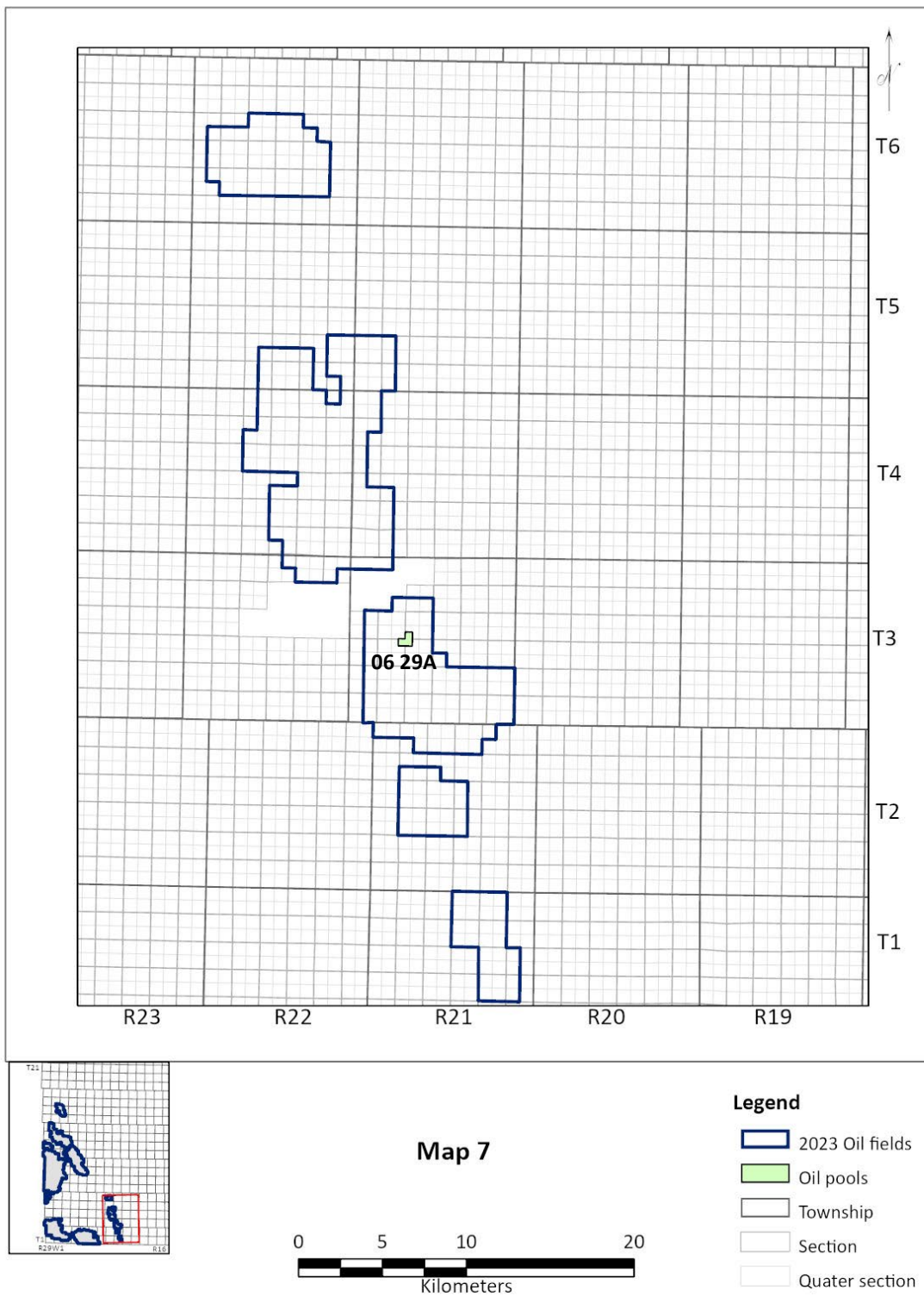


Figure 40: Map 7; Amaranth Formation Lower Amaranth Member pools (29).

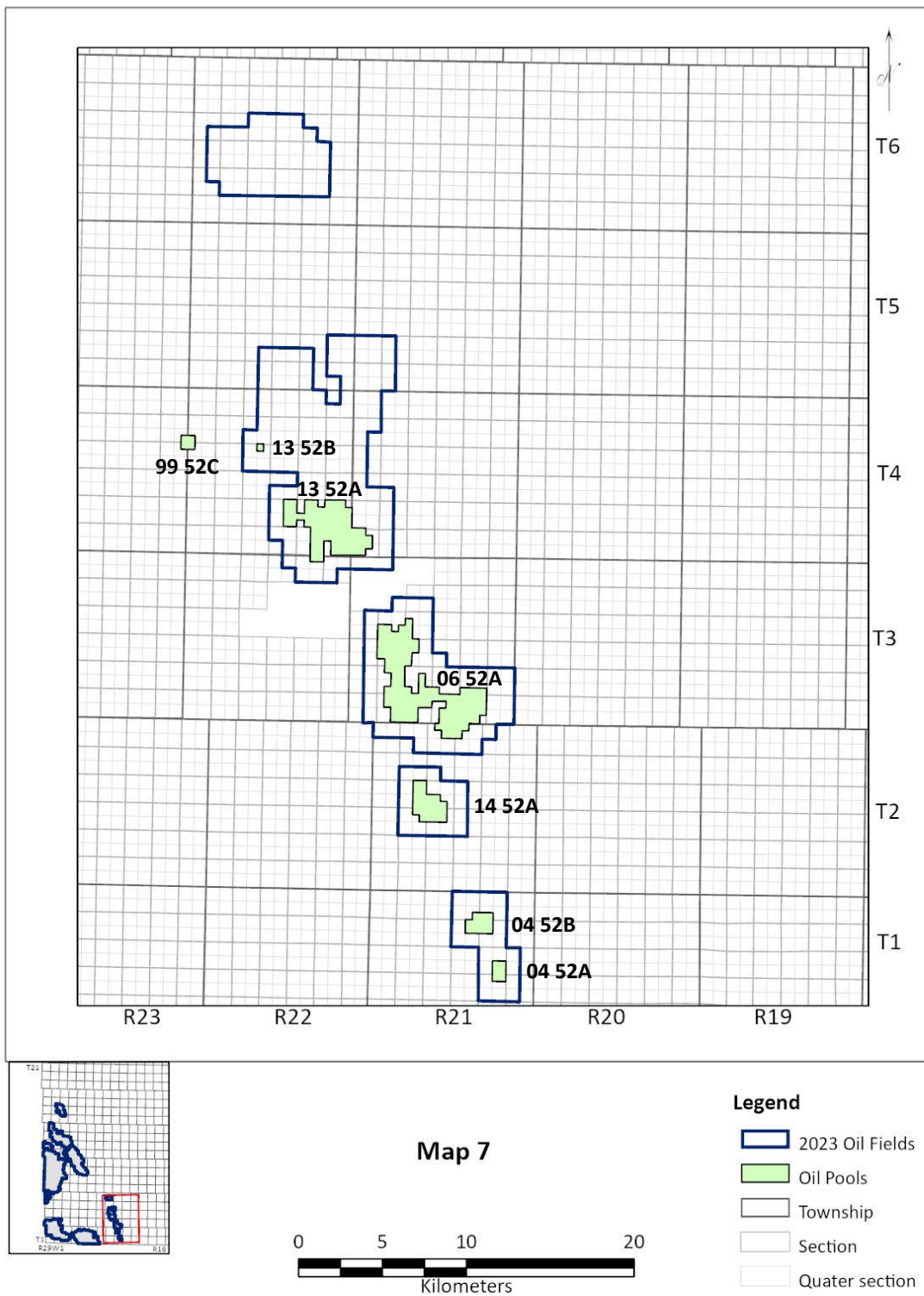


Figure 41: Map 7; Lodgepole Formation Whitewater Lake Member pools (52).

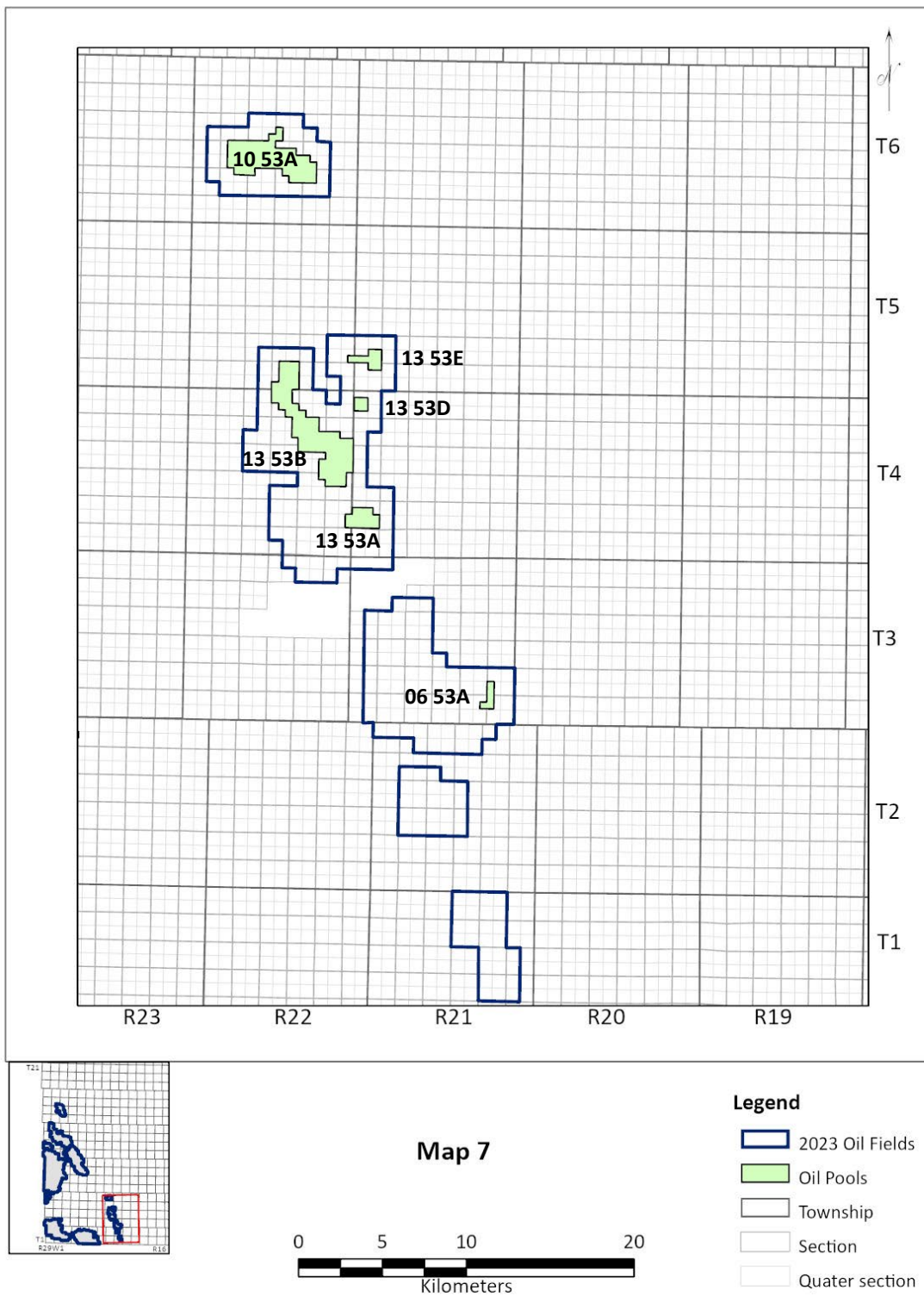


Figure 42: Map 7; Lodgepole Formation Virden Member pools (53).

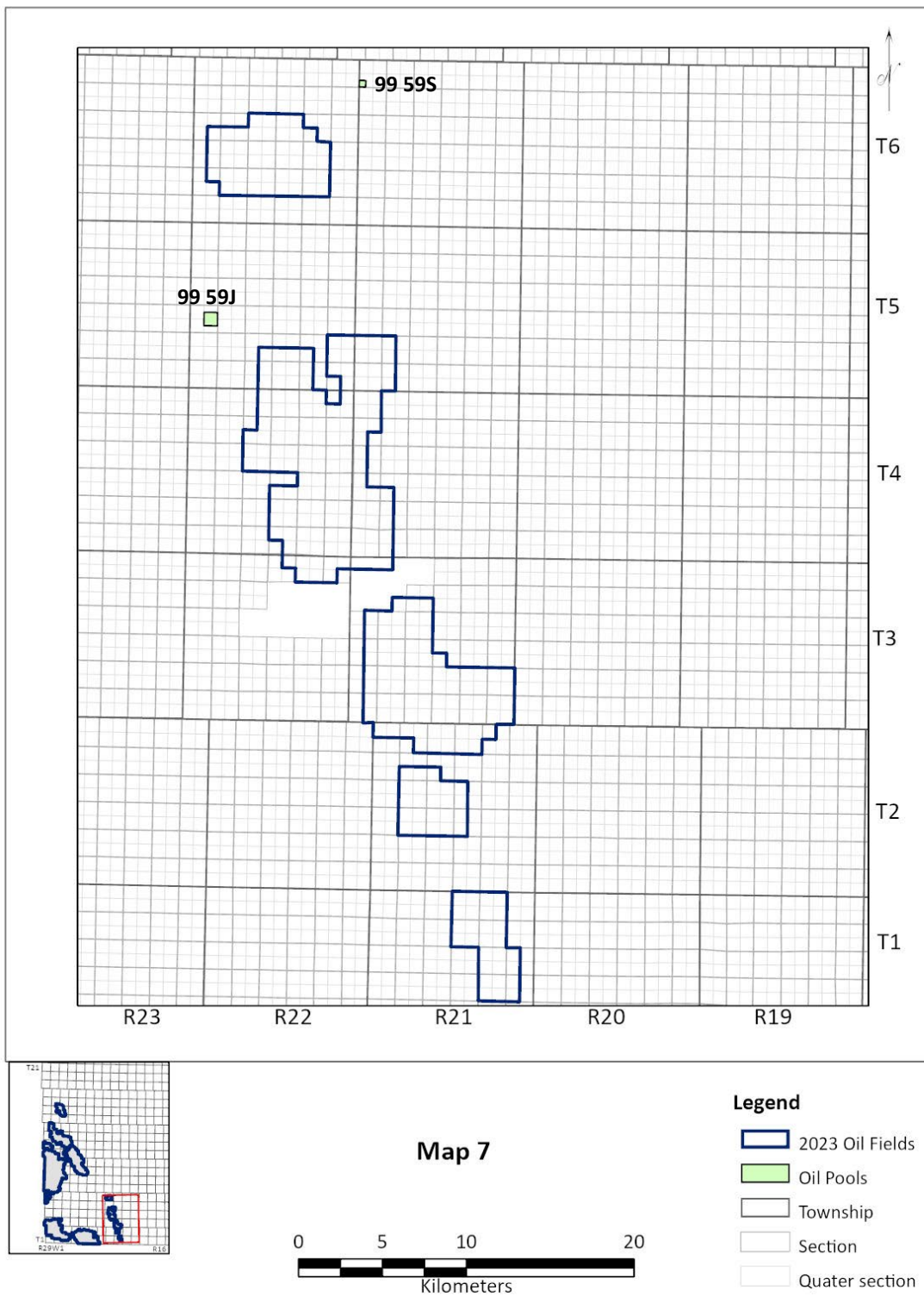


Figure 43: Map 7; Lodgepole Formation undifferentiated pools (59).

APPENDIX A - Grid and Scale

The grid used in all the field and pool maps within this report are in the Dominion Land Survey (DLS) system for western Canada and north is always to the top of the map. The Prairie Provinces are divided north and south into 5 areas separated by meridians. The first or Principal meridian is in Manitoba and the area to the west of it is referred as W1 or WPM in all Unique Well Identifiers (UWI). The area between meridians is divided into ranges (R) each 6 miles wide. These ranges are cross-divided by township lines which run east-west six miles apart, to form townships (T) six miles square. (Figure 1)

Each Township is divided into Sections (Sec) one mile square (640 acres per section) and there are 36 sections in a Township, 6 sections wide by 6 sections high. Each Section is numbered as shown in Figure 45.

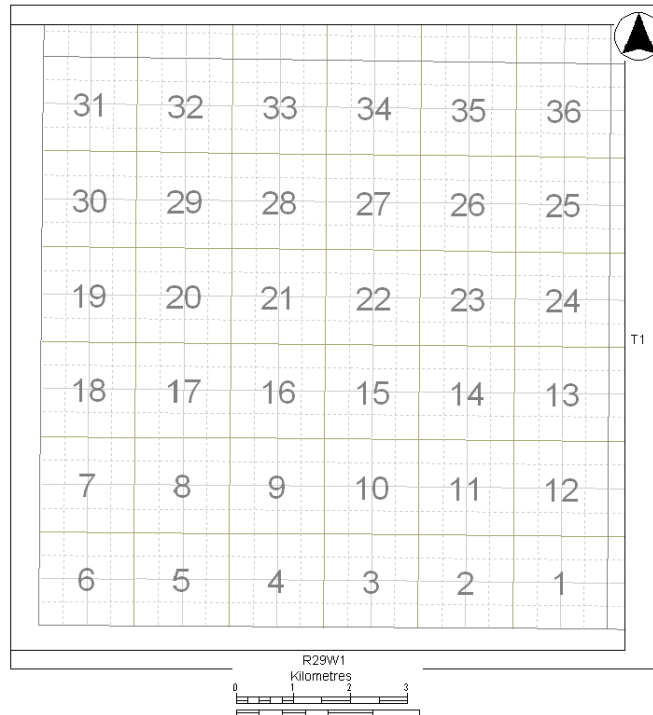


Figure 44: Sections in a township of the DLS system.

Each Section is divided into 16 legal subdivisions (LSD), 4 LSD's wide by 4 LSD's high, each 402.36m² or 40 acres. Pool boundaries are adjusted by LSD. Each LSD is numbered as shown in section 1 of Figure 46. Each section can also be split into ¼ sections as shown in Figure 47. This is important to note as field boundaries are adjusted by ¼ section. Each ¼ section consists of 4 LSD's and a ¼ section is 804.72m² or 160 acres.

A map reference is given in the format of a legal survey system reference, LSD-Sec-Township-Range W1, i.e. 02-09-010-29W1. This is incorporated into the Unique Well Identifier (UWI) a code used to identify each oil well in Manitoba. A UWI's first three numbers indicate: 'Survey system code' 'Location' 'Exception code'/legal survey system/event sequence code i.e.100/16-09-010-09W1/00. The DLS system is always represented by a designated code of 01.

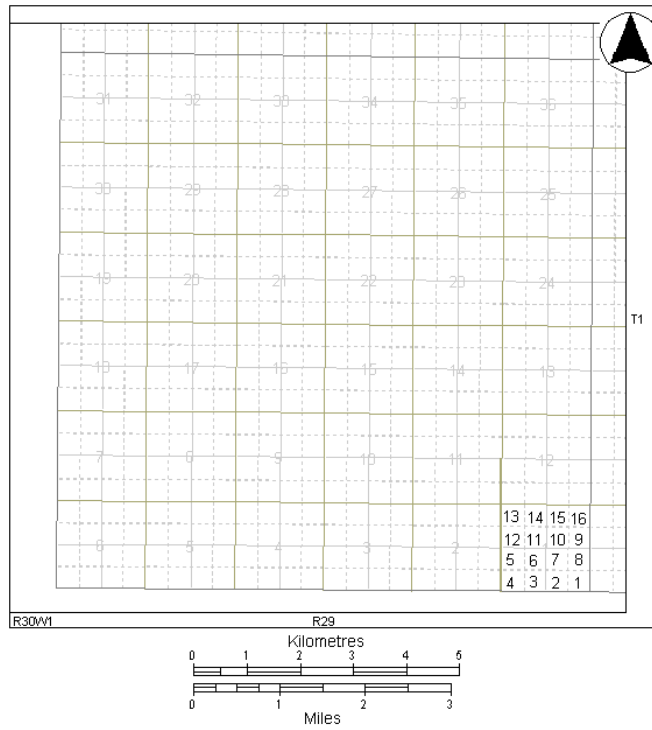


Figure 45: Legal subdivisions in a section of the DLS system.

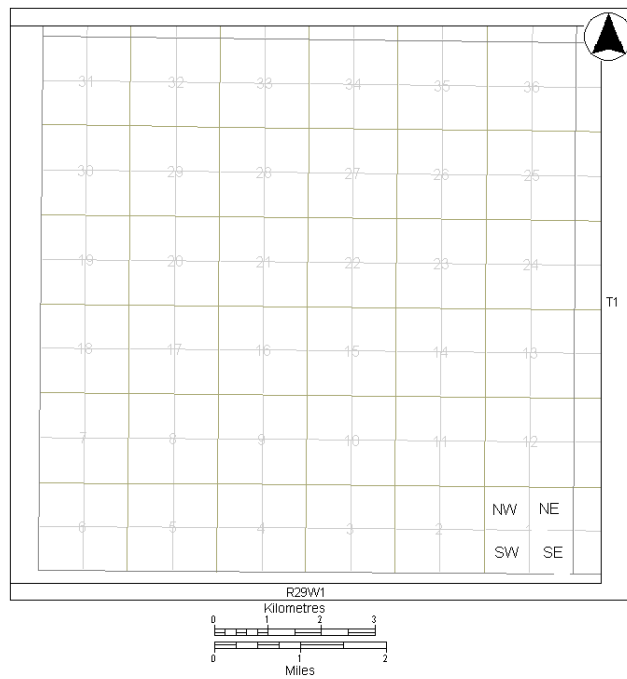


Figure 46: Quarter section illustration of the DLS system.

APPENDIX B - Manitoba pool codes by Formation

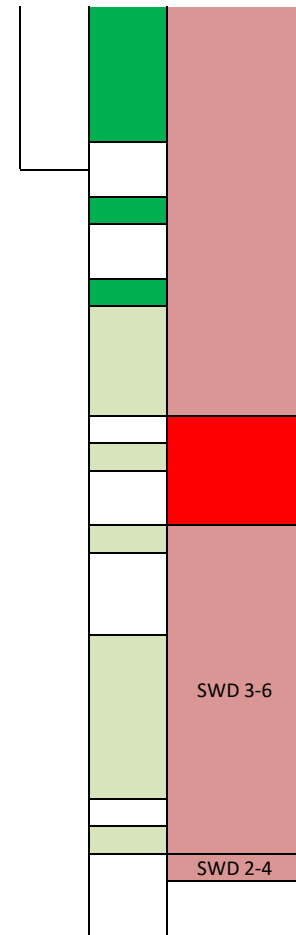
CODE	FORMATION OR MEMBER	CODE	FORMATION OR MEMBER
10	Favel Formation	55	Lodgepole Formation, Crinoidal Cruickshank facies
11	Ashville Formation, Newcastle Member	56	Lodgepole Formation, Scallion Member (formerly 55)
15	Swan River Formation	59	Lodgepole Formation, undifferentiated
19	Melita Formation	60	Bakken Formation
21	Reston Formation	62	Bakken – Torquay formation
22	Reston-Amaranth-Lodgepole, undifferentiated		
23	Upper Amaranth Formation	65	Torquay Formation
26	Triassic, undifferentiated	71	Birdbear Formation
29	Lower Amaranth, undifferentiated	72	Duperow Formation
35	Lower Amaranth – Mission Canyon 3b (MC-3b) Member	73	Souris River Formation
39	Mississippian, undifferentiated	74	Dawson Bay Formation
40	Lower Amaranth – Lodgepole undifferentiated	75	Prairie Evaporite Formation
41	Mission Canyon Formation, MC-3 Member, undifferentiated	76	Winnipegosis Formation (formerly 75)
42	Mission Canyon Formation, MC-3b Member	78	Devonian, undifferentiated (formerly 79)
43	Mission Canyon Formation, MC-3a Member	79	Silurian, Interlake Group
44	Mission Canyon Formation, MC-1 Member	80	Stonewall Formation
49	Mission Canyon Formation, undifferentiated	81	Stony Mountain Formation
51	Lodgepole Formation, Dolomitic	82	Red River Formation
52	Lodgepole Formation, Whitewater Lake Member	85	Winnipeg Formation
53	Lodgepole Formation, Virden Member	89	Ordovician, undifferentiated
54	Lodgepole Formation, Daly Member	90	Cambrian, Deadwood Formation

January 1, 2023

APPENDIX C - Manitoba Williston Basin stratigraphy showing pool codes, hydrocarbon bearing zones and approved disposal zones

PERIOD	EPOCH	GROUP	FORMATION SHOWING POOL CODES ()	MEMBER SHOWING POOL CODES ()	COMMINGLED ZONE POOL CODES		OIL & GAS	WATER POLICY
QUATERNARY	RECENT							
	PLEISTOCENE		GLACIAL DRIFT					
TERTIARY	PLIOCENE							PROTECT NO DISPOSAL
	MIOCENE							
	OLIGOCENE							
	EOCENE							
	PALEOCENE		TURTLE MOUNTAIN	PEACE GARDEN GOODLANDS				
CRETACEOUS	LATE CRETACEOUS		BOISSEVAIN					NO DISPOSAL
			PIERRE SHALE	COULTER				
				ODANAH				
				MILLWOOD				
				PEMBINA				
			GAMMON FERRUGINOUS					
	CARLILE		BOYNE MORDEN					
	FAVEL (10)		ASSINIBOINE KELD					
	EARLY CRETACEOUS		ASHVILLE	BELLE FOURCHE WESTGATE NEWCASTLE (11)				
				SKULL CREEK				
				SWAN RIVER (15)				
			SUCCESS	S2				
JURASSIC		LATE JURASSIC	WASKADA	UPPER MELITA LOWER MELITA				
			MELITA (19)					
	MIDDLE JURASSIC	RESTON (21)	UPPER AMARANTH (23)					
TRIASSIC (26)	MID TO LATE TRIASSIC	AMARANTH	LOWER AMARANTH (29)					
UNCONFORMITY								
PERMIAN			ST. MARTIN COMPLEX		22	35		
PENNSYLVANIAN			CHARLES					
MISSISSIPPIAN (39)		MADISON	KISBEY		MC-3 (41)	MC-3b (42) DANDO EVAP. MC-3a (43)	40	SWD 1-5
			MISSION CANYON (49)					
				MC-2				
				MC-1 (44)				
				FLOSSIE LAKE (51)				
	LODGEPOLE (59)	DALY (54)						

				C. SHALE	WHITEWATER LAKE (52)
				C. CRINOIDAL (55)	VIRDEN (53)
				CROMER SHALE	
				BASAL LIMESTONE	SCALLION (56)
					ROUTLEDGE
		THREE FORKS (62)	BAKKEN (60)	UPPER	
				MIDDLE	
				LOWER	
			BIG VALLEY		
			TORQUAY (65)		
		SASKATCHEWAN	BIRDBEAR (71)		
			DUPEROW (72)		
		MANITOBA	SOURIS RIVER (73)		
			DAWSON BAY (74)		
			PRAIRIE EVAP. (75)		
		ELK POINT	WINNIPEGOSIS (76)	UPPER (REEF)	
			ELM POINT	LOWER (PLATFORM)	
			ASHERN		
SILURIAN			INTERLAKE GROUP (79)		
			STONEWALL (80)	UPPER	
				LOWER	WILLIAMS
			STONY MOUNTIAN (81)	GUNTON	
				PENITENTIARY	
				GUNN	
			RED RIVER (82)	FORT GARRY	
				SELKIRK	
				CAT HEAD	
				DOG HEAD	
			WINNIPEG (85)	UPPER SHALE	
				LOWER SANDSTONE	
CAMBRIAN			DEADWOOD (90)		
			UNCONFORMITY		
			PRECAMBRIAN		



LEGEND

	OIL PRODUCING
	OIL & GAS SHOWS
	FRESH WATER ZONE - WATER SOURCE WELLS ONLY NO DISPOSAL ALLOWED (PROTECT)
	TREATABLE WATER ZONE - WATER SOURCE WELLS ONLY, NO DISPOSAL ALLOWED
	SALT WATER DISPOSAL ALLOWED (ZONE NUMBERS FROM SIMPSON, MCCABE & BARCHYN, 1987)
	SALT RESOURCES - DISPOSAL ALLOWED ONLY WHERE SALT ABSENT