



OWEN OIL TOOLS

PERFORATING FOR ENHANCED PRODUCTION

Canadian Charge Performance Summary

O.D. (in.)	O.D. (mm)	Charge Type	Shot Density (spm) Dry or Fluid	Phasing	Charge Code	Charge P/N	Explosive Weight (g)	Casing O.D. (in.)	Casing O.D. (mm)	Entry Hole (in.)	Penetration (in.)	Penetration Normalized @ 5000 psi (in.)	Temp 1hr	Data Source
------------	-----------	-------------	---------------------------------	---------	-------------	------------	----------------------	-------------------	------------------	------------------	-------------------	---	----------	-------------

Through Tubing Perforating

Shogun Systems

1 11/16	42.8	SDP	13F/20F	0°/60°/40°		STP-1687-401NTX	8.4	4.5	114.3	0.24	19.31	22.14	375°F	API RP-19B
1 11/16	42.8	BH	13F/20F	0°/60°/40°		STP-1687-401NB	8.8	5.5	139.7	0.40	9.57	9.57	375°F	QC
1 11/16	42.8	SDP	13F/20F	0°/60°/40°		STP-1687-401NT	9.0	5	127	0.24	16.40	17.69	375°F	API RP-43
2 1/8	54	BH	13F/20F	0°/60°/40°		STP-2125-401NB	13.4	5.5	139.7	0.50	11.86	11.86	375°F	QC
2 1/8	54	SDP	13F/20F	0°/60°/40°		STP-2125-401NTX	13.9	5.5	139.7	0.28	25.25	29.75	375°F	API RP-19B
2 1/8	54	SDP	13F/20F	0°/60°/40°		STP-2125-401NT	14.0	5.5	139.7	0.26	23.64	24.30	375°F	API RP-43
2 1/2	63.5	SDP	13F	60°		STP-2500-401NTX	26.4	5.5	139.7	0.36	32.62	39.28	375°F	API RP-19B

Retrieval Tubing Gun Systems

1 11/16	42.8	BH	13D/20D	60°		RTG-1687-301BH	3.3	4.5	114.3	0.37	3.29	3.29	330°F	EPA
1 11/16	42.8	SDP	13D/20D	60°		SDP-1687-402NT3	3.3	2.875	73	0.18	13.18	13.18	400°F	QC
2 1/8	54	BH	13D/20D	60°		RTG-2125-402F	6.4	2.875	73	0.42	3.03	3.68	400°F	API RP-19B
2 1/8	54	DP	13D/20D	60°		RTG-2125-402LS	6.7	4.5	114.3	0.26	18.98	18.98	400°F	API RP-43
2 1/8	54	SDP	13D/20D	60°		SDP-2125-402NT3	6.5	2.875	73	0.24	19.38	23.62	400°F	API RP-19B
2 1/2	63.5	SDP	13D/20D	60°		SDP-2500-402NT3	11.1	3.5	88.9	0.32	24.68	29.81	400°F	API RP-19B

Circulation Penetrator Charges

1 9/16	39.7	Circ	13F	0°		RTG-1562-407	2.0	N/A	N/A	0.34	0.19 - 0.28§	N/A	400°F	QC
1 9/16	39.7	Circ	13F	0°		RTG-1562-451	3.2	N/A	N/A	0.39	0.25 - 0.38§	N/A	400°F	QC
1 9/16	39.7	Circ	13F	0°		RTG-1562-453	3.2	N/A	N/A	0.41	0.38 - 0.50§	N/A	400°F	QC
1 9/16	39.7	Circ	13F	0°		RTG-1562-455	3.3	N/A	N/A	0.40	0.50 - 0.63§	N/A	400°F	QC

Expendable Charges and Carriers

Uzi Squeeze Gun Systems

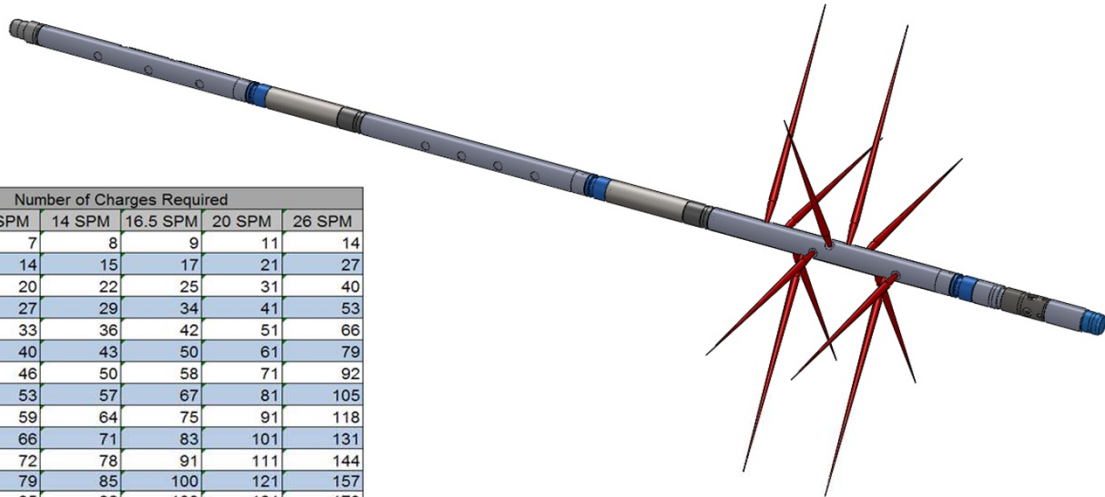
3 3/8	86	DP	118F	120°/10°	3	HSC-2500-301	3.0	4.5	114.3	0.22	5.03	5.03	330°F	EPA
3 3/8	86	Circ	118F	120°/10°	3	HSC-2500-301S	3.0	4.5	114.3	0.17	0.271	N/A	330°F	QC
4	101	DP	118F	120°/10°	3	HSC-2500-302	6.0	5.5	139.7	0.24	5.67	5.67	330°F	EPA
4	101	Circ	118F	120°/10°	3	HSC-2500-302S	6.0	5.5	139.7	0.19	0.375	N/A	330°F	QC
5	127	DP	118F	120°/10°	3	HSC-2500-302	6.0	7	177.8	0.20	7.20	7.20	330°F	EPA
5	127	Circ	118F	120°/10°	3	HSC-2500-302S	6.0	7	177.8	0.19	0.375	N/A	330°F	QC

Shallow Gas Slick Gun Systems

3 1/8	79	GH	7/12D	60°/90°	77	HSC-3125-332WC	11.0	4.5	114.3	0.42	21.56	N/A	330°F	QC
3 1/8	79	DP	7/12D	60°/90°	15	SLK-4000-324SG	16.0	4.5	114.3	0.52	19.20	19.20	330°F	QC
4	101	DP	7/12D	60°/90°	15	SLK-4000-324SG	16.0	5.5	139.7	0.39	16.95	17.04	330°F	API RP-43

D = Dry; F = Fluid

§[Use the smallest charge that will do the job, contact your sales rep for more information]



Gun Length	Number of Charges Required					
	7 SPM	13 SPM	14 SPM	16.5 SPM	20 SPM	26 SPM
0.5	4	7	8	9	11	14
1	8	14	15	17	21	27
1.5	11	20	22	25	31	40
2	15	27	29	34	41	53
2.5	18	33	36	42	51	66
3	22	40	43	50	61	79
3.5	25	46	50	58	71	92
4	29	53	57	67	81	105
4.5	32	59	64	75	91	118
5	36	66	71	83	101	131
5.5	39	72	78	91	111	144
6	43	79	85	100	121	157
6.5	46	85	92	108	131	170
7	50	92	99	116	141	183

Red Deer (403) 340-1017
 Grande Prairie (780) 539-0506
 Edmonton (780) 449-2021
 Lloydminster (780) 871-0670
 Whitecourt (780) 778-2364

Red Deer toll free 1-888-345-1017

Medicine Hat (403) 548-2888
 Brooks (403) 362-2633
 Fort St. John (250) 785-7792
 Calgary (403) 571-2400
 Estevan (306) 636-6936



OWEN OIL TOOLS

PERFORATING FOR ENHANCED PRODUCTION

Canadian Charge Performance Summary

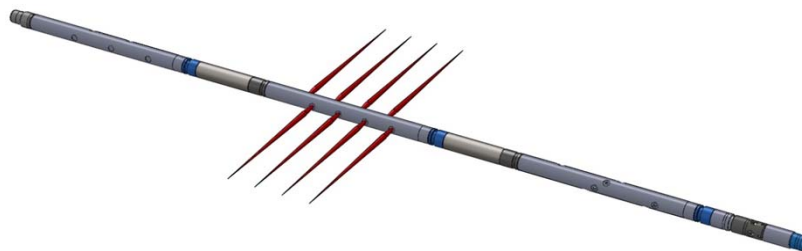
O.D. (in.)	O.D. (mm)	Charge Type	Shot Density (spm) Dry or Fluid	Phasing	Charge Code	Charge P/N	Explosive Weight (g)	Casing O.D. (in.)	Casing O.D. (mm)	Entry Hole (in.)	Penetration (in.)	Penetration Normalized @ 5000 psi (in.)	Temp 1hr	Data Source
------------	-----------	-------------	---------------------------------	---------	-------------	------------	----------------------	-------------------	------------------	------------------	-------------------	---	----------	-------------

Expendable Casing Gun Perforating Systems

2 7/8	73	BH	20F	60°	75	TAG-2750-401BH	14.5	4.5	114.3	0.60	5.70	6.21	400°F	API RP-43
2 7/8	73	SDP	20F	60°	75	SDP-2750-311NT4	15.0	4.5	114.3	0.36	38.22	39.20	330°F	API RP-43
2 7/8	73	SDP	20F	60°	75	SDP-2750-411NT4	15.0	4.5	114.3	0.36	38.22	39.20	400°F	API RP-43
2 7/8	73	SDP	20F	60°	75	TAG-2750-311	15.0	4.5	114.3	0.39	15.50	15.74	330°F	API RP-43
3 1/8	79	DP	13D/16.5F/20F	90°/60°/60°	5	TAG-3375-311L	19.0	4.5	114.3	0.44	21.60	22.26	330°F	API RP-43
3 1/8	79	BH	13D/16.5F/20F	90°/60°/60°	5	HSC-3375-301	20.0	4.5	114.3	0.70	6.18	6.35	330°F	API RP-43
3 1/8	79	SDP	13D/16.5F/20F	90°/60°/60°	5	SDP-3125-311NT4	21.0	4.5	114.3	0.35	34.24	39.50	330°F	API RP-19B†
3 1/8	79	SDP	13D/16.5F/20F	90°/60°/60°	5	SDP-3125-411NT4	21.0	4.5	114.3	0.35	34.24	39.50	400°F	API RP-19B
3 1/8	79	GH	13D/16.5F/20F	90°/60°/60°	5	TAG-3375-311	21.5	4.5	114.3	0.52	24.90	25.12	330°F	API RP-43
3 1/8	79	SDP	13D/16.5F/20F	90°/60°/60°	5	SDP-3375-311NT	23.0	4.5	114.3	0.42	35.60	36.02	330°F	API RP-19B
3 3/8	86	DP	13D/16.5D/20D	90°/60°/60°	8	TAG-3375-311L	19.0	4.5	114.3	0.45	22.57	23.57	330°F	API RP-43
3 3/8	86	BH	13D/16.5D/20D	90°/60°/60°	8	HSC-3375-301	20.0	5	127	0.73	6.05	6.73	330°F	API RP-43
3 3/8	86	GH	13D/16.5D/20D	90°/60°/60°	8	TAG-3375-311	21.5	4.5	114.3	0.52	28.20	28.61	330°F	API RP-43
3 3/8	86	SDP	13D/16.5D/20D	90°/60°/60°	8	SDP-3375-311NT	23.0	4.5	114.3	0.43	33.84	37.24	330°F	API RP-19B
3 3/8	86	SDP	13D/16.5D/20F	90°/60°/60°	8	SDP-3375-311NT3	25.0	4.5	114.3	0.48	41.39	45.84	330°F	API RP-19B†
3 3/8	86	SDP	13D/16.5D/20F	90°/60°/60°	8	SDP-3375-411NT3	25.0	4.5	114.3	0.48	41.39	45.84	400°F	API RP-19B
3 3/8	86	SDP	13D/16.5D/20F	90°/60°/60°	8	SDP-3375-311NT4	25.0	4.5	114.3	0.42	51.97	55.12	330°F	API RP-43
3 3/8	86	SDP	13D/16.5D/20F	90°/60°/60°	8	SDP-3375-411NT4	25.0	4.5	114.3	0.42	51.97	55.12	400°F	API RP-43†
3 3/8	86	GH	13D/16.5D/20F	90°/60°/60°	8	TAG-3375-302	25.0	4.5	114.3	0.67	24.70	24.70	330°F	QC
4	101	DP	14D/16.5D/20D	60°	8	TAG-3375-311L	19.0	5.5	139.7	0.44	21.32	21.79	330°F	API RP-43
4	101	BH	14D/16.5D/20D	60°	8	HSC-3375-301	20.0	5.5	139.7	0.74	6.98	6.98	330°F	EPA
4	101	GH	14D/16.5D/20D	60°	8	TAG-3375-311	21.5	5.5	139.7	0.51	26.00	26.49	330°F	API RP-43
4	101	SDP	14D/16.5D/20D	60°	8	SDP-3375-311NT	23.0	5.5	139.7	0.48	38.40	39.22	330°F	API RP-43
4	101	SDP	14D/16.5D/20D	60°	8	SDP-3375-311NT3	25.0	5.5	139.7	0.44	41.93	41.93	330°F	QC†
4	101	SDP	14D/16.5D/20D	60°	8	SDP-3375-411NT3	25.0	5.5	139.7	0.44	41.93	41.93	400°F	QC
4	101	SDP	14D/16.5D/20D	60°	8	SDP-3375-311NT4	25.0	5.5	139.7	0.41	52.40	56.87	330°F	API RP-43
4	101	SDP	14D/16.5D/20D	60°	8	SDP-3375-411NT4	25.0	5.5	139.7	0.41	52.40	56.87	400°F	API RP-43†
4	101	GH	14D/16.5D/20D	60°	8	TAG-3375-302	25.0	5.5	139.7	0.65	26.35	26.35	330°F	QC
4	101	DP	14D/16.5D	90°/60°	31	HSC-5000-321Z	32.0	5.5	139.7	0.48	28.76	28.76	330°F	QC
4	101	BH	14D/16.5D	90°/60°	31	HSC-5000-325F	32.0	5.5	139.7	0.93	6.30	6.68	330°F	API RP-43
4	101	SDP	14D/16.5F	90°/60°	31	SDP-4500-311NT3	39.0	5.5	139.7	0.43	49.16	55.24	330°F	API RP-19B†
4	101	SDP	14D/16.5F	90°/60°	31	SDP-4500-411NT3	39.0	5.5	139.7	0.43	49.16	55.24	400°F	API RP-19B
4	101	DP	14D/16.5F	90°/60°	31	TAG-4500-311	39.0	5.5	139.7	0.58	40.18	42.36	330°F	API RP-43
4 1/2	114	DP	16.5D	60°	31	HSC-5000-321Z	32.0	7	177.8	0.40	38.31	38.31	330°F	QC
4 1/2	114	BH	16.5D	60°	31	HSC-5000-325F	36.0	7	177.8	0.83	9.66	9.66	330°F	EPA
4 1/2	114	SDP	16.5F	60°	31	SDP-4500-311NT3	39.0	7	177.8	0.40	62.73	66.18	330°F	API RP-43†
4 1/2	114	SDP	16.5F	60°	31	SDP-4500-411NT3	39.0	7	177.8	0.40	62.73	66.18	400°F	API RP-43
4 1/2	114	DP	16.5F	60°	31	TAG-4500-311	39.0	7	177.8	0.52	42.27	44.60	330°F	API RP-43
5*	127	DP	14D/16.5D/20D	60°	8	TAG-3375-311L	19.0	7	177.8	0.45	19.12	19.36	330°F	API RP-43
5	127	BH	14D/16.5D/20D	60°	8	HSC-3375-301	20.0	7	177.8	0.75	6.70	6.70	330°F	QC
5	127	GH	14D/16.5D/20D	60°	8	TAG-3375-311	21.5	7	177.8	0.49	25.72	26.04	330°F	API RP-43
5*	127	SDP	14D/16.5D/20D	60°	8	SDP-3375-311NT	23.0	7	177.8	0.46	42.35	42.85	330°F	API RP-43
5	127	SDP	14D/16.5D/20D	60°	8	SDP-3375-311NT3	25.0	7	177.8	0.46	41.28	41.28	330°F	QC†
5	127	SDP	14D/16.5D/20D	60°	8	SDP-3375-411NT3	25.0	7	177.8	0.46	41.28	41.28	400°F	QC
5*	127	SDP	14D/16.5D/20D	60°	8	SDP-3375-311NT4	25.0	7	177.8	0.37	47.15	48.45	330°F	API RP-43
5	127	GH	14D/16.5D/20D	60°	8	TAG-3375-302	25.0	7	177.8	0.65	23.55	23.55	330°F	QC
5*	127	BH	26F	135°/45°	60	HSC-5000-305Z	30.0	7	177.8	0.97	9.96	9.96	330°F	EPA
5	127	BH	26F	135°/45°	60	HSC-5000-305ZPF	30.0	7	177.8	1.05	8.03	8.03	330°F	QC
5	127	DP	26F	135°/45°	60	TAG-5000-314	32.0	7	177.8	0.57	22.62	22.62	330°F	QC
5	127	DP	14D/16.5D	90°/60°	31	HSC-5000-321Z	32.0	7	177.8	0.53	26.47	26.47	330°F	QC
5	127	BH	14D/16.5D	90°/60°	31	HSC-5000-325F	32.0	7	177.8	1.06	6.90	6.90	330°F	QC
5*	127	SDP	14D/16.5F	90°/60°	31	SDP-4500-311NT3	39.0	7	177.8	0.42	62.73	66.34	330°F	API RP-43†
5*	127	SDP	14D/16.5F	90°/60°	31	SDP-4500-411NT3	39.0	7	177.8	0.42	62.73	66.34	400°F	API RP-43
5*	127	DP	14D/16.5D	90°/60°	31	TAG-4500-311	39.0	7	177.8	0.57	43.13	43.13	330°F	EPA†

D = Dry; F = Fluid

[5-1/8" data used to format 5" data] †[HMX data used] ‡[RDX data used]



Hero & SuperHero Charges feature our Patented HWM (High Wolfram Molybdenum) Liner Technology. US Patents 6,354,219 & 6,655,291



OWEN OIL TOOLS

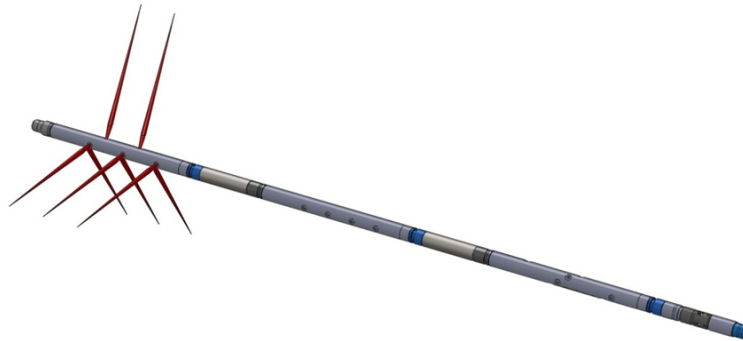
PERFORATING FOR ENHANCED PRODUCTION

Canadian Charge Performance Summary

O.D. (in.)	O.D. (mm)	Charge Type	Shot Density (sprm) Dry or Fluid	Charge Code	Charge P/N	Explosive Weight (g)	Casing O.D. (in.)	Casing O.D. (mm)	Entry Hole (in.)	Penetration Normalized @ 5000 psi (in.)	Temp 1hr	Data Source	
Innicor Charge Line													
R.T.G Gun Systems													
1	9/16	40	DP	13D/20F	10.0301	3.0	2 7/8	73	0.23	8.00	330°F	QC	
2	50.8	DP	13D/20F	10.0651	6.5	2 7/8	73	0.25	14.28	330°F	QC		
Scalloped Gun Systems													
2	3/4	70	DP	13D/20F	¶ D	10.1501	15.0	4 1/2	114	0.34	24.02	330°F	QC
2	7/8	73	DP	13D/20F	¶ D	11.1501	15.0	4 1/2	114	0.27	21.88	400°F	API-19B
3	1/8	79	DP	13D/16.5D/20D	¶ D	10.1501	15.0	4 1/2	114	0.32	18.67	330°F	QC
3	1/8	79	DP	13D/16.5D/20D	5	10.2104	21.0	4 1/2	114	0.43	27.02	330°F	QC
3	1/8	79	SDP	13D/16.5D/20F	5	10.2273	22.7	4 1/2	114	0.40	33.16	330°F	QC
3	3/8	86	SDP	13D/16.5D/20D	8	10.2273	22.7	4 1/2	114	0.40	35.70	330°F	QC
3	3/8	86	SDP	13D/16.5D/20F	8	10.2403	24.0	4 1/2	114	0.46	35.75	330°F	API-19B
3	3/8	86	SDP	13D/16.5D/20F	8	10.2503	25.0	4 1/2	114	0.56	40.25	330°F	QC
3	3/8	86	GH	13D/16.5D/20F	8	10.2603	26.0	4 1/2	114	0.70	31.00	330°F	QC
4	101	SDP	13D/16.5D/20D	8	10.2403	24.0	5 1/2	139	0.59	28.07	330°F	QC	
4	101	SDP	13D/16.5D/20D	8	10.2503	25.0	5 1/2	139	0.60	37.25	330°F	QC	
4	101	GH	13D/16.5D/20D	8	10.2603	26.0	5 1/2	139	0.66	35.14	330°F	API-19B	
4	101	DP	13D/16.5D/20F	81	10.3201	32.0	5 1/2	139	0.45	34.52	330°F	QC	
4	101	BH	13D/16.5D/20F	81	20.3201	32.0	5 1/2	139	0.66	14.42	330°F	QC	
4	101	DP	13D/16.5F	81	10.3601	36.0	5 1/2	139	0.45	38.00	330°F	QC	
4	101	SDP	13D/16.5F	31	10.3602	36.0	5 1/2	139	0.45	42.26	330°F	QC	
4	101	SDP	13F/16.5F	31	10.3903	39.0	5 1/2	139	0.42	53.42	330°F	QC	
4	1/2	114	DP	13D/16.5D/20D/26D/39F	8 / 82	10.2104	21.0	7	177	0.45	29.07	330°F	QC
4	1/2	114	SDP	13D/16.5D/20D/26D/39F	8 / 82	11.2273	22.7	7	177	0.45	28.79	400°F	API-19B
4	1/2	114	SDP	13D/16.5D/26F	31	10.3903	39.0	7	177	0.42	54.57	330°F	API-19B
5	127	DP	26F/39F	8 / 82	10.2104	21.0	7	177	0.46	25.24	330°F	QC	
5	127	SDP	13D/16.5D/20D	8	10.2403	24.0	7	177	0.59	29.87	330°F	QC	
5	127	SDP	13D/16.5D/20D	8	10.2503	25.0	7	177	0.54	24.72	330°F	QC	
5	127	GH	13D/16.5D/20D	8	10.2603	26.0	7	177	0.59	30.81	330°F	QC	
5	127	SBH	26F/39F	80	20.3002	30.0	7	177	1.03	6.81	330°F	QC	
5	127	DP/SBH	26F/39F	79	10.2104/20.3002	21.0/30.0	7	177	0.46/1.03	25.24/6.81	330°F	QC	
5	127	BH	13D/16.5D/20D	81	20.3201	32.0	7	177	0.70	13.13	330°F	QC	
5	127	DP	13D/16.5D	81	10.3601	36.0	7	177	0.43	36.47	330°F	QC	
5	127	SDP	13D/16.5D	31	10.3903	39.0	7	177	0.44	48.38	330°F	QC	
S.P.E.C. (Shallow Perforating Expendable Carrier) Systems													
3	1/8	79	DP	7D/12D	15	10.1653	16.5		0.54	29.12	330°F	QC	
U.S.C. (Ultimate Squeeze Carrier) Systems													
3	3/8	86	USC	118F	¶ A	10.0302	3.0		0.22	6.04	330°F	QC	
4	101	USC	118F	¶ B	10.0654	6.5			0.28	10.58	330°F	QC	
5	127	USC	118F	¶ B	10.0654	6.5			0.24	11.54	330°F	QC	

D = Dry; F = Fluid

¶ Note, these charges will only fit in Innicor Strip



Red Deer (403) 340-1017
 Grande Prairie (780) 539-0506
 Edmonton (780) 449-2021
 Lloydminster (780) 871-0670
 Whitecourt (780) 778-2364

Red Deer toll free 1-888-345-1017

Medicine Hat (403) 548-2888
 Brooks (403) 362-2633
 Fort St. John (250) 785-7792
 Calgary (403) 571-2400
 Estevan (306) 636-6936