

Alberta's Oil Sands Projects and Upgraders

DISCLAIMER:
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Locations are approximate and may not represent the full extent of project areas. Leased Oil Sands Area information is shown to the nearest quarter section, and therefore may appear to include minerals not owned by the Alberta Crown and/or Minerals Reserved From Disposition.

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PROJECT STATUS DEFINITION:
Operating: Producing Bitumen &/or Oil Sands Product as of last period.
Construction: On-site construction has commenced.
Approved: Regulatory approvals required to operate have been received.
Application: Application is being reviewed by the AER and/or AEP.
Announced: Operator has disclosed intent to construct project.

SOURCE INFORMATION:
 Projects & Upgraders Information:
 - Oil Sands Administration & Strategic Information System, Alberta Energy
 - Integrated Application Registry, Alberta Energy Regulator
 - Alberta Oil & Gas Industry - Quarterly Update (Winter 2017)
 - CanOils - <http://www.can oils.com/>

Industrial Heartland: Alberta's Industrial Heartland Association (AIHA)
 Leased Oil Sands Area: Alberta Energy (February 2017)
 Oil Sands & Surface Mineable Areas: Alberta Energy Regulator (AER)
 Urban Development Sub-Region (UDSR): Alberta Environment & Parks
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Transverse Mercator Projection (10TM)
 North American Datum 1983 (NAD83)

Date: February 2017
 Author: Oil Sands Operations, Alberta Energy (SC)
 Produced by: Resource Mapping & Analysis, Alberta Energy (JS)

Project Status

- Operating (126)
- Construction (7)
- Approved (15)
- Application (18)
- Announced (10)

Upgrader Status

- Operating (4)
- Construction (1)
- Approved (2)
- Application (3)

Other Information

- Oil Sands Area
- Surface Mineable Area
- Industrial Heartland
- Leased Oil Sands Area
- Municipality
- Urban Development Sub-Region
- Hydrography
- Major Highway

Scale: 0, 25, 50 Kilometers

REF. #	OPERATOR - PROJECT NAME	PROJECT TYPE	STAGE	REF. #	OPERATOR - PROJECT NAME	PROJECT TYPE	STAGE
83	Devon - Jackfish East	Operating	Upgrader	83	Devon - Jackfish East	Operating	Thermal
84	MEG Energy - May River	Operating	Upgrader	84	MEG Energy - May River	Operating	Thermal
Upgraders - Athabasca							
A	CNRIL - Horizon	Operating	Upgrader	85	Baytex - Koch Reita Lake	Operating	Primary
B	Suncor - Base and Millennium	Operating	Upgrader	86	Baytex - Mann Lake East	Operating	Primary
C	Synchrude - Mildred Lake	Operating	Upgrader	87	Baytex - Reita Lake (Baytex)	Operating	Primary
D	BP P.L.C. - Terre de Grace Pilot	Approved	Upgrader	88	Black Pearl Resources - John Lake	Operating	Primary
E	Value Creation - Advanced TriStar	Application	Upgrader	89	CNRIL - Ashmont	Operating	Primary
F	Value Creation - DOEx	Application	Upgrader	90	CNRIL - Beartrap	Operating	Primary
G	Value Creation - Tristar Pilot	Application	Upgrader	91	CNRIL - Beartrap East	Operating	Primary
Upgraders - Heartland							
H	Shell - Scotford	Operating	Upgrader	92	CNRIL - CNRL Cold Lake	Operating	Primary
I	North West Upgrading - Redwater	Construction	Upgrader	93	CNRIL - Derwent 11574	Operating	Primary
J	Value Creation - Heartland	Approved	Upgrader	94	CNRIL - East Fishing Lake	Operating	Primary
Athabasca							
1	N-Solv Corporation - Suncor Dover Lease Pilot	Operating	Experimental	95	CNRIL - Edward Lake	Operating	Primary
2	Suncor - Dover Demonstration	Operating	Experimental	96	CNRIL - Elizabeth	Operating	Primary
3	CNRIL - Horizon	Operating	Mining	97	CNRIL - Elk Point	Operating	Primary
4	Imperial Oil - Kears	Operating	Mining	98	CNRIL - Elk Point Project	Operating	Primary
5	Shell - Jackpine Mine	Operating	Mining	99	CNRIL - Fire Tower	Operating	Primary
6	Shell - Muskeg River Mine	Operating	Mining	100	CNRIL - Fishing Lake	Operating	Primary
7	Suncor - Suncor Oil Sands	Operating	Mining	101	CNRIL - Frog Lake	Operating	Primary
8	Synchrude - Synchrude Mine	Operating	Mining	102	CNRIL - Ft. Kent	Operating	Primary
9	Cenovus - Pelican Lake III	Operating	Primary	103	CNRIL - John Lake	Operating	Primary
10	CNRIL - Brintnell	Operating	Primary	104	CNRIL - John Lake 11428	Operating	Primary
11	CNRIL - South Brintnell	Operating	Primary	105	CNRIL - Lindbergh CA	Operating	Primary
12	CNRIL - South Wabasca	Operating	Primary	106	CNRIL - Lindbergh North	Operating	Primary
13	CNRIL - Wabasca North	Operating	Primary	107	CNRIL - Lindbergh Primary	Operating	Primary
14	CNRIL - Woodenhouse	Operating	Primary	108	CNRIL - Marwayne	Operating	Primary
15	Husky - Amadou	Operating	Primary	109	CNRIL - Moose Hills	Operating	Primary
16	Husky - McMullen Primary Heavy Oil	Operating	Primary	110	CNRIL - North Murphy Lindbergh	Operating	Primary
17	Legacy O&G - Brintnell 9774	Operating	Primary	111	CNRIL - Reita Lake (CNRIL)	Operating	Primary
18	Athabasca Oil Sands - Hangingstone	Operating	Thermal	112	CNRIL - Seibert Lake	Operating	Primary
19	Black Pearl Resources - Blackrod SAGD Pilot	Operating	Thermal	113	CNRIL - South Lindbergh	Operating	Primary
20	Cenovus - Christina Lake Thermal	Operating	Thermal	114	CNRIL - West Marwayne	Operating	Primary
21	Cenovus - Clearwater Thermal Project	Operating	Thermal	115	Devon - Bonnyville	Operating	Primary
22	Cenovus - Foster Creek	Operating	Thermal	116	Devon - East Tulabi John Lake	Operating	Primary
23	Cenovus - Pelican Lake Grand Rapids	Operating	Thermal	117	Devon - Mann North	Operating	Primary
24	CNRIL - Kirby Commercial Project	Operating	Thermal	118	Devon - Tulabi/John Lake	Operating	Primary
25	Connacher - Algar	Operating	Thermal	119	Gear Energy - Lindbergh Louis	Operating	Primary
26	Connacher - Great Divide	Operating	Thermal	120	Gear Energy - Passage Elk	Operating	Primary
27	Conoco Phillips - Surmont	Operating	Thermal	121	Gear Energy - Swimming	Operating	Primary
28	Devon - Jackfish 2 SAGD Thermal Project	Operating	Thermal	122	Harvest Operations - Frog Lake Oil Sands Project	Operating	Primary
29	Devon - Jackfish SAGD Thermal Project	Operating	Thermal	123	Harvest Operations - Lindbergh South	Operating	Primary
30	Devon - Jackfish 3 SAGD Project	Operating	Thermal	124	Husky - Lindbergh 10259	Operating	Primary
31	Husky - Sunrise Thermal	Operating	Thermal	125	Husky - Lindbergh 10619	Operating	Primary
32	JACOS - Hangingstone	Operating	Thermal	126	Husky - Lindbergh 10812	Operating	Primary
33	MEG Energy - Christina Lake Regional	Operating	Thermal	127	Husky - Lindbergh 11041	Operating	Primary
34	MEG Energy - Christina Lake Regional Project Phase 3 SE	Operating	Thermal	128	Husky - Lindbergh 11205	Operating	Primary
35	Nexen - Long Lake	Operating	Thermal	129	Husky - Lindbergh 9873, 11822	Operating	Primary
36	Statoil - Leismer Demonstration Project	Operating	Thermal	130	Husky - Marwayne 10597	Operating	Primary
37	Suncor - Firebag	Operating	Thermal	131	Husky - Marwayne 11287	Operating	Primary
38	Suncor - MacKay River	Operating	Thermal	132	Husky - Marwayne 7990	Operating	Primary
39	Sunshine Oilsands - West Ells	Operating	Thermal	133	Husky - Marwayne 8655	Operating	Primary
40	Suncor - Fort Hills Oil Sands Project	Construction	Mining	134	Solara - Lindbergh 11429	Operating	Primary
41	Brion Energy - MacKay River Commercial Project	Construction	Thermal	135	Twin Butte Energy - Frog Lake	Operating	Primary
42	Cenovus - Narrows Lake	Construction	Thermal	136	Twin Butte Energy - Frog Lake 11256	Operating	Primary
43	CNRIL - Kirby Expansion (North)	Construction	Thermal	137	Twin Butte Energy - Swimming 11191	Operating	Primary
44	Harvest Operations - BlackGold	Construction	Thermal	138	CNRIL - Burnt Lake	Operating	Thermal
45	JACOS - Hangingstone Expansion Project	Construction	Thermal	139	CNRIL - Elk Point CA	Operating	Thermal
46	Sunshine Oilsands - Harper	Construction	Thermal	140	CNRIL - Primrose	Operating	Thermal
47	Athabasca Oil Sands - Dover West Carbonates (Leduc)	Approved	Experimental	141	CNRIL - Wolf Lake CA	Operating	Thermal
48	Oak Point Energy - Lewis SAGD Pilot	Approved	Experimental	142	Husky - Tucker	Operating	Thermal
49	Energy Petroleum - Muskwa Pilot	Approved	Experimental	143	Imperial Oil - Cold Lake	Operating	Thermal
50	BP P.L.C. - Terre de Grace	Approved	Thermal	144	OSUM - Orion EOR	Operating	Thermal
51	Brion Energy - Dover Commercial Project	Approved	Thermal	145	Pengrowth - Lindbergh SAGD Pilot	Operating	Thermal
52	Cavalier Energy Inc. - Hoole	Approved	Thermal	146	Devon - Walleye	Approved	Thermal
53	Cenovus - Telephone Lake Borealis	Approved	Thermal	147	Husky - Caribou Lake	Approved	Thermal
54	Devon - Pike	Approved	Thermal	148	OSUM - Taiga	Approved	Thermal
55	Suncor - Meadow Creek	Approved	Thermal	149	Koch - Selina	Application	Thermal
56	Sunshine Oilsands - Thickwood	Approved	Thermal	150	Penn West Petroleum - Seal Harmon Valley South Thermal Pilot	Operating	Experimental
57	Value Creation - Tristar Pilot	Approved	Thermal	151	Baytex - Cadotte Heavy Oil	Operating	Primary
58	Husky - Saleski Carbonate Pilot	Application	Experimental	152	Baytex - Harmon Valley Bluesky	Operating	Primary
59	Teck Resources - Frontier	Application	Mining	153	Baytex - Reno	Operating	Primary
60	Athabasca Oil Sands - Dover West Sands & Clastics	Application	Thermal	154	Baytex - Tangent 11437	Operating	Primary
61	Black Pearl Resources - Blackrod Commercial	Application	Thermal	155	Baytex - Walrus	Operating	Primary
62	CNRIL - Grouse	Application	Thermal	156	Murphy Oil - Murphy Cliffdale	Operating	Primary
63	Grizzly Oil Sands - May River	Application	Thermal	157	Murphy Oil - Murphy Seal	Operating	Primary
64	Imperial Oil - Aspen	Application	Thermal	158	Murphy Oil - Peace River	Operating	Primary
65	MEG Energy - Surmont	Application	Thermal	159	Murphy Oil - Seal I	Operating	Primary
66	OSUM - Sepiko Kesik	Application	Thermal	160	Murphy Oil - Seal Cadotte	Operating	Primary
67	Prosper Petroleum Ltd. - Rigel	Application	Thermal	161	Murphy Oil - Seal-Northern Cadotte Block	Operating	Primary
68	PTT Exploration and Production - Mariana-Hangingstone	Application	Thermal	162	Penn West Petroleum - Harmon Valley	Operating	Primary
69	PTT Exploration and Production - Mariana-South Leismer	Application	Thermal	163	Penn West Petroleum - Seal Cadotte	Operating	Primary
70	PTT Exploration and Production - Mariana-Thornbury	Application	Thermal	164	Penn West Petroleum - Seal Harmon Valley South	Operating	Primary
71	Sunshine Oilsands - Legend Lake	Application	Thermal	165	Penn West Petroleum - Seal North	Operating	Primary
72	Surmont Energy - Wildwood	Application	Thermal	166	Prosper Petroleum Ltd. - Chipmunk	Operating	Primary
73	Value Creation - Advanced TriStar	Application	Thermal	167	Prosper Petroleum Ltd. - Chipmunk II	Operating	Primary
74	Value Creation - Audet Pilot	Application	Thermal	168	Shell - Cliffdale	Operating	Primary
75	Suncor - Voyageur South	Announced	Mining	169	Shell - Galloway	Operating	Primary
76	Athabasca Oil Sands - Birch	Announced	Thermal	170	Andora - Sawm Lake	Operating	Thermal
77	Cenovus - East McMurray	Announced	Thermal	171	Baytex - Harmon Valley - Pilot	Operating	Thermal
78	Cenovus - Steepbank	Announced	Thermal	172	Penn West Petroleum - Dawson Seal	Operating	Thermal
79	Cenovus - West Kirby	Announced	Thermal	173	Penn West Petroleum - Seal Main East	Operating	Thermal
80	Cenovus - Winefred Lake	Announced	Thermal	174	Shell - Peace River	Operating	Thermal
81	CNRIL - Birch Mountain	Announced	Thermal	175	Shell - Peace River Bluesky	Operating	Thermal
82	CNRIL - Gregoire Lake	Announced	Thermal	176	Northern Alberta Oil - Sawm Lake	Approved	Thermal

Notes:
Primary/EOR - These projects utilize the natural energy available in the reservoirs (in some cases supplemented by non-thermal EOR processes) to produce bitumen.
Thermal - These projects apply thermal energy (usually steam) in situ to produce bitumen.
Mining - These projects utilize open pit mining methods to remove bituminous ore, which is subsequently processed to recover bitumen.
Experimental - These projects operate on a (non-commercial) pilot scale and use innovative methods to recover bitumen.



Alberta's Oil Sands Projects and Upgraders

-- Athabasca --

Project Status

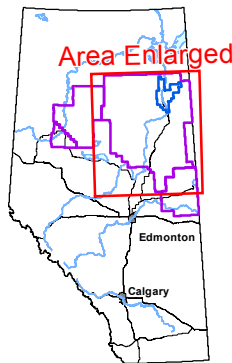
- Operating (39)
- Construction (7)
- Approved (11)
- Application (17)
- Announced (10)

Upgrader Status

- ◆ Operating (3)
- ◆ Construction (0)
- ◆ Approved (1)
- ◆ Application (3)

Other Information

- Oil Sands Area
- Surface Mineable Area
- Leased Oil Sands Area
- Municipality
- Urban Development Sub-Region
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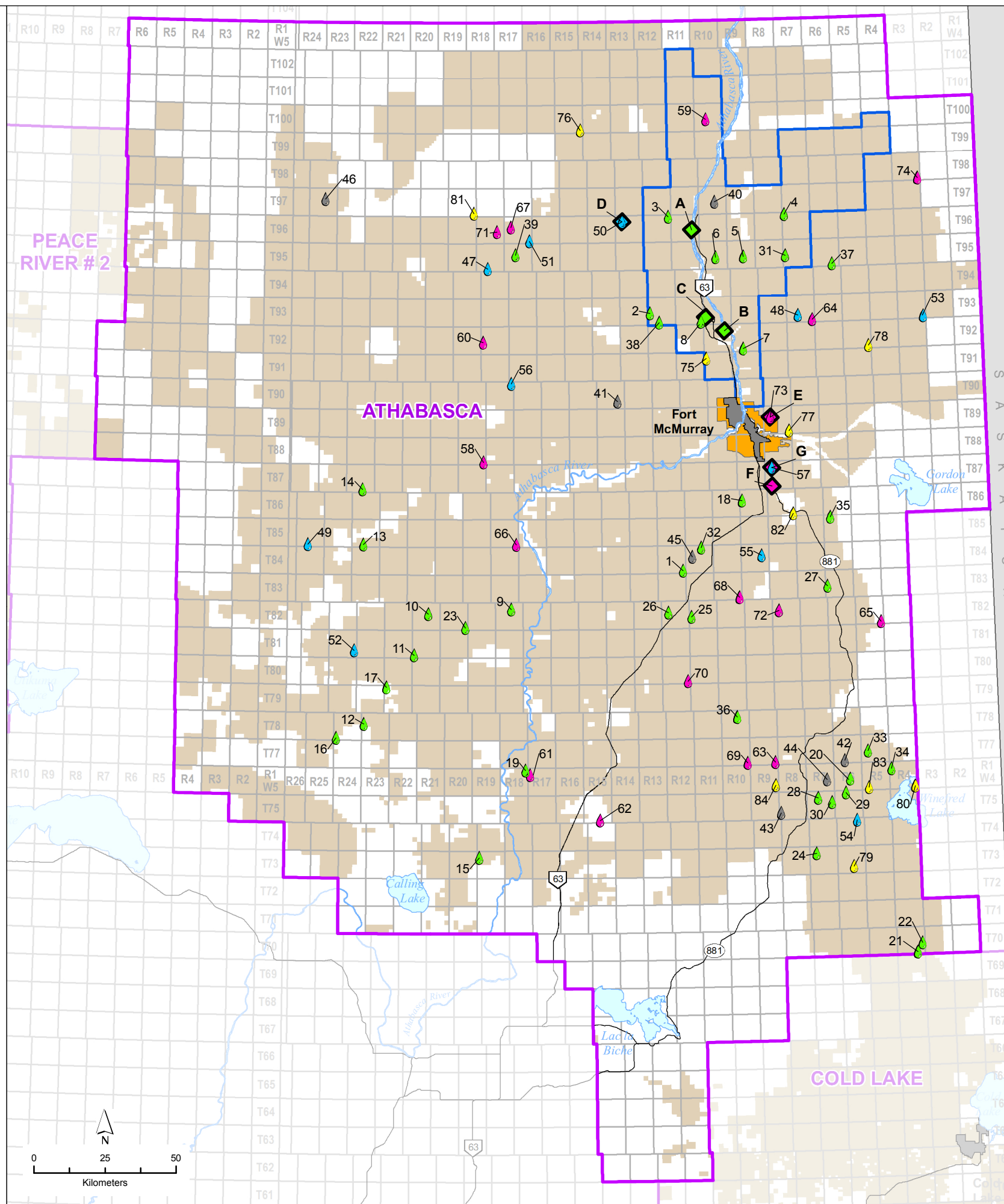
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Date: February 2017
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REF. #	OPERATOR - PROJECT NAME	PROJECT TYPE	STAGE
Upgraders - Athabasca			
A	CNRL - Horizon	Operating	Upgrader
B	Suncor - Base and Millennium	Operating	Upgrader
C	Synchrude - Mildred Lake	Operating	Upgrader
D	B.P.L.C. - Terre de Grace Pilot	Approved	Upgrader
E	Value Creation - Advanced TriStar	Application	Upgrader
F	Value Creation - DOEx	Application	Upgrader
G	Value Creation - Tristar Pilot	Application	Upgrader
Athabasca			
1	N-Solv Corporation - Suncor Dover Lease Pilot	Operating	Experimental
2	Suncor - Dover Demonstration	Operating	Experimental
3	CNRL - Horizon	Operating	Mining
4	Imperial Oil - Kearl	Operating	Mining
5	Shell - Jackpine Mine	Operating	Mining
6	Shell - Muskeg River Mine	Operating	Mining
7	Suncor - Suncor Oil Sands	Operating	Mining
8	Synchrude - Synchrude Mine	Operating	Mining
9	Cenovus - Pelican Lake III	Operating	Primary
10	CNRL - Brintnell	Operating	Primary
11	CNRL - South Brintnell	Operating	Primary
12	CNRL - South Wabasca	Operating	Primary
13	CNRL - Wabasca North	Operating	Primary
14	CNRL - Woodenhouse	Operating	Primary
15	Husky - Amadou	Operating	Primary
16	Husky - McMullen Primary Heavy Oil	Operating	Primary
17	Legacy O&G - Brintnell 9774	Operating	Primary
18	Athabasca Oil Sands - Hangingstone	Operating	Thermal
19	Black Pearl Resources - Blackrod SAGD Pilot	Operating	Thermal
20	Cenovus - Christina Lake Thermal	Operating	Thermal
21	Cenovus - Clearwater Thermal Project	Operating	Thermal
22	Cenovus - Foster Creek	Operating	Thermal
23	Cenovus - Pelican Lake Grand Rapids	Operating	Thermal
24	CNRL - Kirby Commercial Project	Operating	Thermal
25	Connacher - Algar	Operating	Thermal
26	Connacher - Great Divide	Operating	Thermal
27	Conoco Phillips - Surmont	Operating	Thermal
28	Devon - Jackfish 2 SAGD Thermal Project	Operating	Thermal
29	Devon - Jackfish SAGD Thermal Project	Operating	Thermal
30	Devon - Jackfish 3 SAGD Project	Operating	Thermal
31	Husky - Sunrise Thermal	Operating	Thermal
32	JACOS - Hangingstone	Operating	Thermal
33	MEG Energy - Christina Lake Regional	Operating	Thermal
34	MEG Energy - Christina Lake Regional Project Phase 3 SE	Operating	Thermal
35	Nexen - Long Lake	Operating	Thermal
36	Statoil - Leismer Demonstration Project	Operating	Thermal
37	Suncor - Firebag	Operating	Thermal
38	Suncor - Mackay River	Operating	Thermal
39	Sunshine Oilsands - West Ellis	Operating	Thermal
40	Suncor - Fort Hills Oil Sands Project	Construction	Mining
41	Brion Energy - Mackay River Commercial Project	Construction	Thermal
42	Cenovus - Narrows Lake	Construction	Thermal
43	CNRL - Kirby Expansion (North)	Construction	Thermal
44	Harvest Operations - BlackGold	Construction	Thermal
45	JACOS - Hangingstone Expansion Project	Construction	Thermal
46	Sunshine Oilsands - Harper	Construction	Thermal
47	Athabasca Oil Sands - Dover West Carbonates (Leduc)	Approved	Experimental
48	Oak Point Energy - Lewis SAGD Pilot	Approved	Experimental
49	Renergy Petroleum - Muskwa Pilot	Approved	Experimental
50	B.P.L.C. - Terre de Grace	Approved	Thermal
51	Brion Energy - Dover Commercial Project	Approved	Thermal
52	Cavalier Energy Inc - Hoole	Approved	Thermal
53	Cenovus - Telephone Lake Borealis	Approved	Thermal
54	Devon - Pike	Approved	Thermal
55	Suncor - Meadow Creek	Approved	Thermal
56	Sunshine Oilsands - Thickwood	Approved	Thermal
57	Value Creation - Tristar Pilot	Approved	Thermal
58	Husky - Saleski Carbonate Pilot	Application	Experimental
59	Teck Resources - Frontier	Application	Mining
60	Athabasca Oil Sands - Dover West Sands & Clastics	Application	Thermal
61	Black Pearl Resources - Blackrod Commercial	Application	Thermal
62	CNRL - Grouse	Application	Thermal
63	Grizzly Oil Sands - May River	Application	Thermal
64	Imperial Oil - Aspen	Application	Thermal
65	MEG Energy - Surmont	Application	Thermal
66	OSUM - Sepiko Kesik	Application	Thermal
67	Prosper Petroleum Ltd. - Rigel	Application	Thermal
68	PTT Exploration and Production - Mariana-Hangingstone	Application	Thermal
69	PTT Exploration and Production - Mariana-South Leismer	Application	Thermal
70	PTT Exploration and Production - Mariana-Thornbury	Application	Thermal
71	Sunshine Oilsands - Legend Lake	Application	Thermal
72	Surmont Energy - Wildwood	Application	Thermal
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84	MEG Energy - May River	Announced	Thermal

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Alberta's Oil Sands Projects and Upgraders

-- Cold Lake / Industrial Heartland --

Project Status

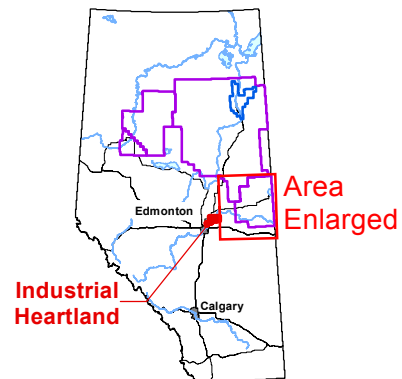
- Operating (61)
- Construction (0)
- Approved (3)
- Application (1)
- Announced (0)

Upgrader Status

- Operating (1)
- Construction (1)
- Approved (1)
- Application (0)

Other Information

- Oil Sands Area
- Industrial Heartland
- Leased Oil Sands Area
- Municipality
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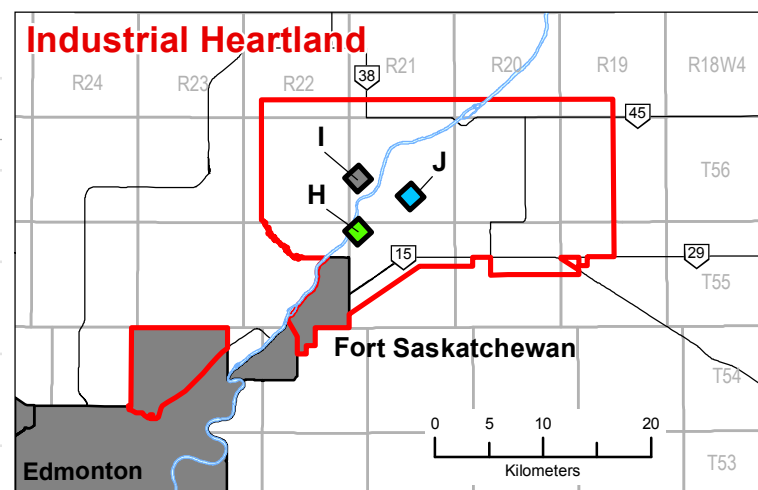
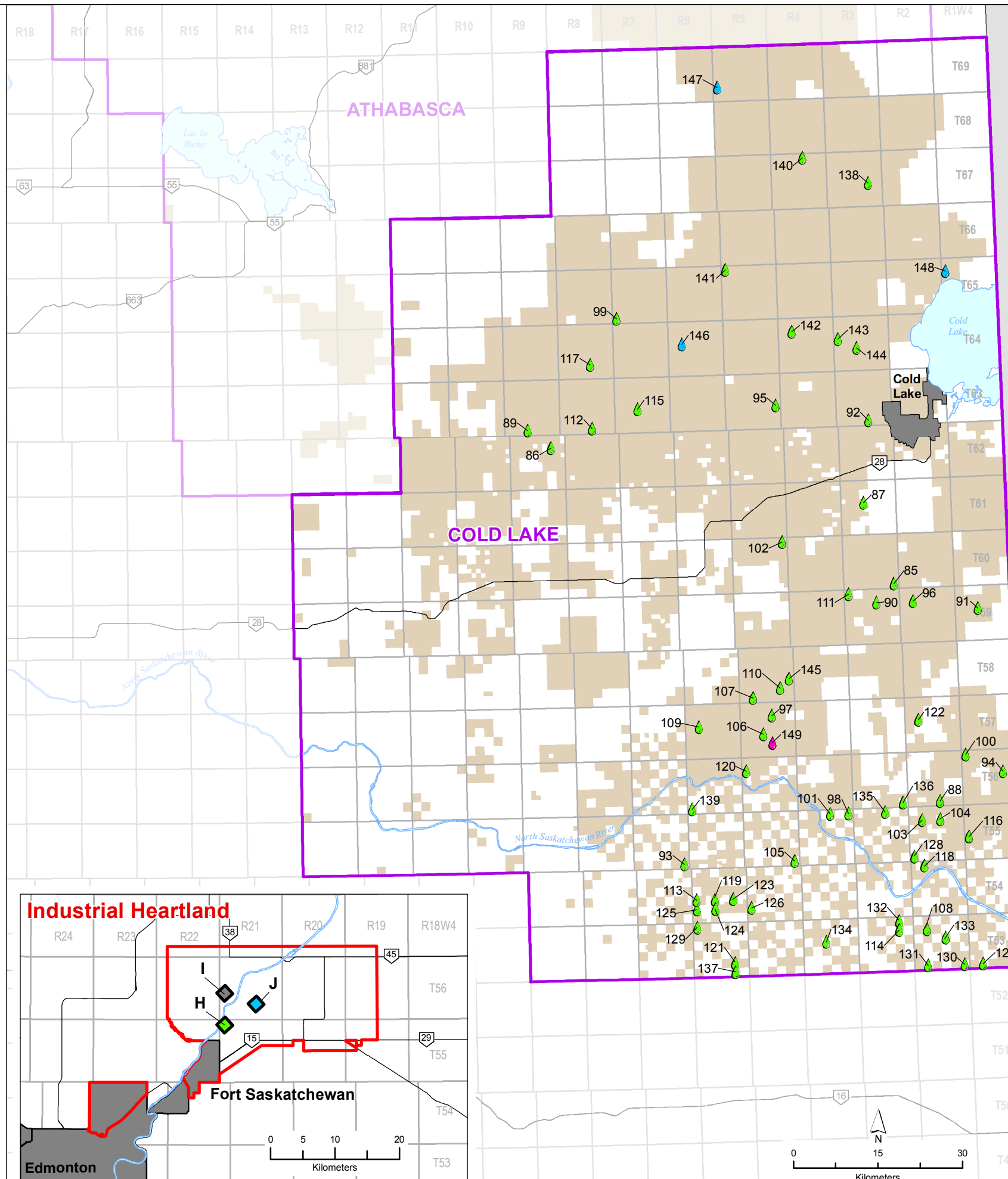
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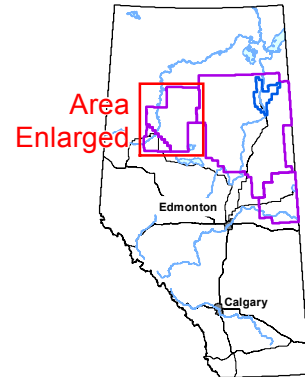
REF. #	OPERATOR - PROJECT NAME	PROJECT TYPE	STAGE
Upgraders - Heartland			
H	Shell - Scotford	Operating	Upgrader
I	North West Upgrading - Redwater	Construction	Upgrader
J	Value Creation - Heartland	Approved	Upgrader
Cold Lake			
85	Baytex - Koch Reita Lake	Operating	Primary
86	Baytex - Mann Lake East	Operating	Primary
87	Baytex - Reita Lake (Baytex)	Operating	Primary
88	Black Pearl Resources - John Lake	Operating	Primary
89	CNRL - Ashmont	Operating	Primary
90	CNRL - Beartrap	Operating	Primary
91	CNRL - Beartrap East	Operating	Primary
92	CNRL - CNRL Cold Lake	Operating	Primary
93	CNRL - Derwent 11574	Operating	Primary
94	CNRL - East Fishing Lake	Operating	Primary
95	CNRL - Edward Lake	Operating	Primary
96	CNRL - Elizabeth	Operating	Primary
97	CNRL - Elk Point	Operating	Primary
98	CNRL - Elk Point Project	Operating	Primary
99	CNRL - Fire Tower	Operating	Primary
100	CNRL - Fishing Lake	Operating	Primary
101	CNRL - Frog Lake	Operating	Primary
102	CNRL - Ft. Kent	Operating	Primary
103	CNRL - John Lake	Operating	Primary
104	CNRL - John Lake 11428	Operating	Primary
105	CNRL - Lindbergh CA	Operating	Primary
106	CNRL - Lindbergh North	Operating	Primary
107	CNRL - Lindbergh Primary	Operating	Primary
108	CNRL - Marwayne	Operating	Primary
109	CNRL - Moose Hills	Operating	Primary
110	CNRL - North Murphy Lindbergh	Operating	Primary
111	CNRL - Reita Lake (CNRL)	Operating	Primary
112	CNRL - Seibert Lake	Operating	Primary
113	CNRL - South Lindbergh	Operating	Primary
114	CNRL - West Marwayne	Operating	Primary
115	Devon - Bonnyville	Operating	Primary
116	Devon - East Tulabi John Lake	Operating	Primary
117	Devon - Mann North	Operating	Primary
118	Devon - Tulabi/John Lake	Operating	Primary
119	Gear Energy - Lindbergh Louis	Operating	Primary
120	Gear Energy - Passage Elk	Operating	Primary
121	Gear Energy - Swimming	Operating	Primary
122	Harvest Operations - Frog Lake Oil Sands Project	Operating	Primary
123	Harvest Operations - Lindbergh South	Operating	Primary
124	Husky - Lindbergh 10259	Operating	Primary
125	Husky - Lindbergh 10619	Operating	Primary
126	Husky - Lindbergh 10812	Operating	Primary
127	Husky - Lindbergh 11041	Operating	Primary
128	Husky - Lindbergh 11205	Operating	Primary
129	Husky - Lindbergh 9873,11822	Operating	Primary
130	Husky - Marwayne 10597	Operating	Primary
131	Husky - Marwayne 11287	Operating	Primary
132	Husky - Marwayne 7990	Operating	Primary
133	Husky - Marwayne 8655	Operating	Primary
134	Solara - Lindbergh 11429	Operating	Primary
135	Twin Butte Energy - Frog Lake	Operating	Primary
136	Twin Butte Energy - Frog Lake 11256	Operating	Primary
137	Twin Butte Energy - Swimming 11191	Operating	Primary
138	CNRL - Burnt Lake	Operating	Thermal
139	CNRL - Elk Point CA	Operating	Thermal
140	CNRL - Primrose	Operating	Thermal
141	CNRL - Wolf Lake CA	Operating	Thermal
142	Husky - Tucker	Operating	Thermal
143	Imperial Oil - Cold Lake	Operating	Thermal
144	OSUM - Orion EOR	Operating	Thermal
145	Pengrowth - Lindbergh SAGD Pilot	Operating	Thermal
146	Devon - Walleye	Approved	Thermal
147	Husky - Caribou Lake	Approved	Thermal
148	OSUM - Taiga	Approved	Thermal
149	Koch - Selina	Application	Thermal

Notes:
Primary/EOR - These projects utilize the natural energy available in the reservoirs (in some cases supplemented by non-thermal EOR processes) to produce bitumen.
Thermal - These projects apply thermal energy (usually steam) in situ to produce bitumen.
Mining - These projects utilize open pit mining methods to remove bituminous ore, which is subsequently processed to recover bitumen.
Experimental - These projects operate on a (non-commercial) pilot scale and use innovative methods to recover bitumen.

Alberta's Oil Sands Projects and Upgraders

-- Peace River --

- Project Status**
- Operating (26)
 - Construction (0)
 - Approved (1)
 - Application (0)
 - Announced (0)
- Other Information**
- Oil Sands Area
 - Leased Oil Sands Area
 - Municipality
 - ~ Hydrography
 - Major Highway
- Upgrader Status**
- ◆ Operating (0)
 - ◆ Construction (0)
 - ◆ Approved (0)
 - ◆ Application (0)



DISCLAIMER:
This map excludes active projects with production of less than 1,000 barrels of bitumen in the last six months.

Locations are approximate and may not represent the full extent of project areas. Leased Oil Sands Area information is shown to the nearest quarter section, and therefore may appear to include minerals not owned by the Alberta Crown and/or Minerals Reserved From Disposition.

The data represented was obtained from the source information listed and internal records as well as public announcements made at the time of publication and are subject to change; therefore the Government of Alberta assumes no responsibility for discrepancies at time of use.

PROJECT STATUS DEFINITION:
Operating: Producing Bitumen &/or Oil Sands Product as of last period.
Construction: On-site construction has commenced.
Approved: Regulatory approvals required to operate have been received.
Application: Application is being reviewed by the AER and/or AEP
Announced: Operator has disclosed intent to construct project.

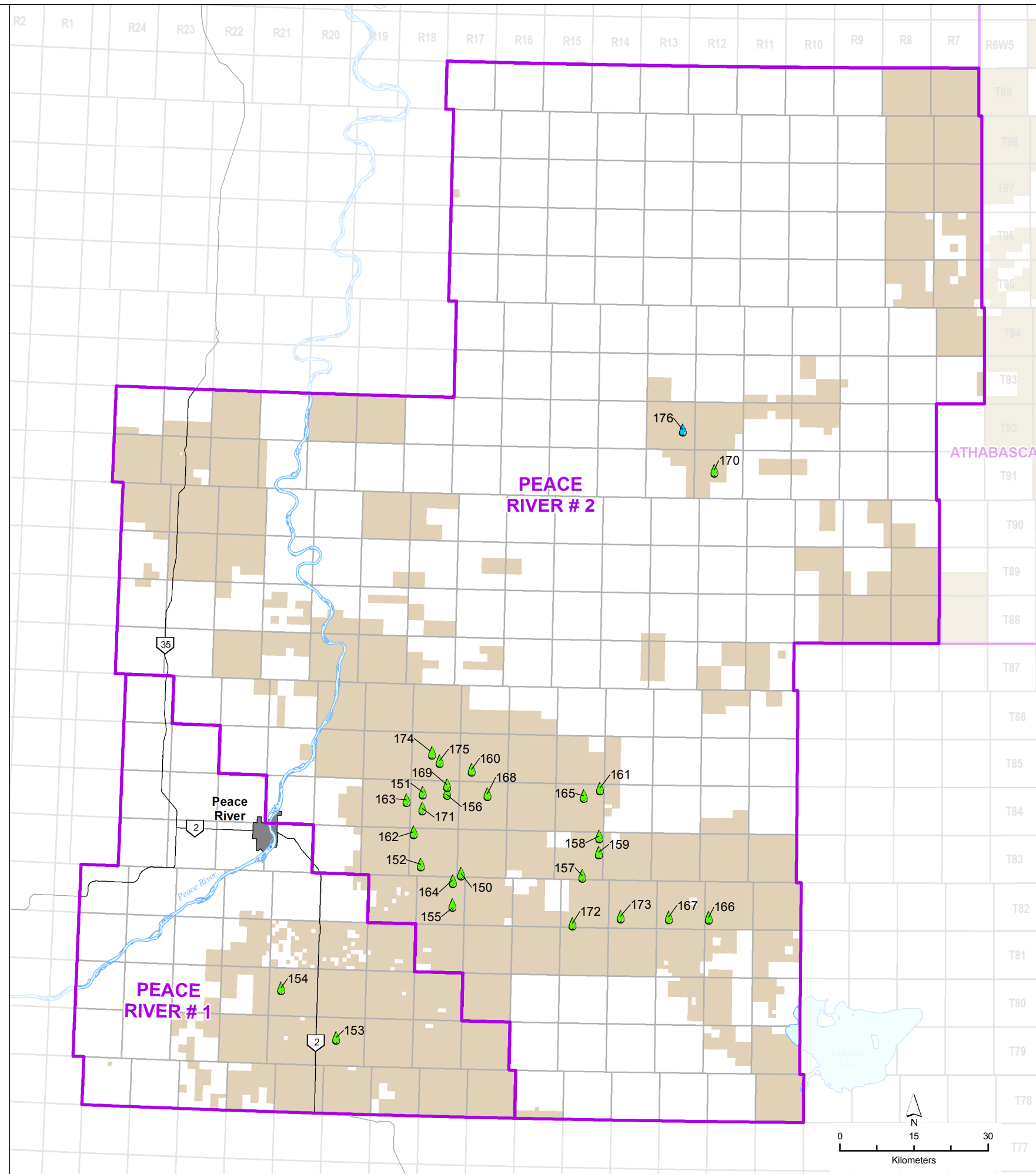
SOURCE INFORMATION:
 Projects & Upgraders Information:
 - Oil Sands Administration & Strategic Information System, Alberta Energy
 - Integrated Application Registry, Alberta Energy Regulator
 - Alberta Oil Sands - Quarterly Update (Winter 2017)
 - CanOils - <http://www.can oils.com/>

Industrial Heartland: Alberta's Industrial Heartland Association (AIHA)
 Leased Oil Sands Area: Alberta Energy (February 2017)
 Oil Sands & Surface Mineable Areas: Alberta Energy Regulator (AER)
 Urban Development Sub-Region (UDSR): Alberta Environment & Parks
 Base Map Data Provided by the Government of Alberta under the Alberta Open Government Licence.

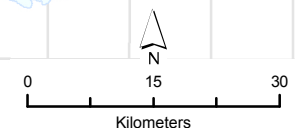
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Transverse Mercator Projection (10TM)
 North American Datum 1983 (NAD83)

Date: February 2017
 Author: Oil Sands Operations, Alberta Energy (SC)
 Produced by: Resource Mapping & Analysis, Alberta Energy (JS)



REF. #	OPERATOR - PROJECT NAME	PROJECT TYPE	STAGE
Peace River			
150	Penn West Petroleum - Seal Harmon Valley	Operating	Experimental
	South Thermal Pilot		
151	Baytex - Cadotte Heavy Oil	Operating	Primary
152	Baytex - Harmon Valley Bluesky	Operating	Primary
153	Baytex - Reno	Operating	Primary
154	Baytex - Tangent 11437	Operating	Primary
155	Baytex - Walrus	Operating	Primary
156	Murphy Oil - Murphy Cliffdale	Operating	Primary
157	Murphy Oil - Murphy Seal	Operating	Primary
158	Murphy Oil - Peace River	Operating	Primary
159	Murphy Oil - Seal I	Operating	Primary
160	Murphy Oil - Seal Cadotte	Operating	Primary
161	Murphy Oil - Seal-Northern Cadotte Block	Operating	Primary
162	Penn West Petroleum - Harmon Valley	Operating	Primary
163	Penn West Petroleum - Seal Cadotte	Operating	Primary
164	Penn West Petroleum - Seal Harmon Valley South	Operating	Primary
165	Penn West Petroleum - Seal North	Operating	Primary
166	Prosper Petroleum Ltd. - Chipmunk	Operating	Primary
167	Prosper Petroleum Ltd. - Chipmunk II	Operating	Primary
168	Shell - Cliffdale	Operating	Primary
169	Shell - Galloway	Operating	Primary
170	Andora - Sawn Lake	Operating	Thermal
171	Baytex - Harmon Valley - Pilot	Operating	Thermal
172	Penn West Petroleum - Dawson Seal	Operating	Thermal
173	Penn West Petroleum - Seal Main East	Operating	Thermal
174	Shell - Peace River	Operating	Thermal
175	Shell - Peace River Bluesky	Operating	Thermal
176	Northern Alberta Oil - Sawn Lake	Approved	Thermal



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