

## Athabasca Oil Sands Projects and Upgraders

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**Application:** Application is being reviewed by the AER and/or ESRD.  
**Announced:** Operator has disclosed intent to construct project.

**SOURCE INFORMATION:**  
**Projects & Upgraders Information:**  
 - Oil Sands Administration & Strategic Information System, Alberta Energy  
 - Alberta Energy Regulator - Integrated Application Registry  
 - Alberta Oil Sands Industry - Quarterly Update (Fall 2013)  
 - Oilsands Review & CanOils  
**Industrial Heartland:** Alberta's Industrial Heartland Association (AIHA)  
**Leased Oil Sands Area:** Alberta Energy (February 2014)  
**Oil Sands & Surface Mineable Areas:** Alberta Energy Regulator (AER)  
**Urban Development Sub-Region (UDSR):** Environment & Sustainable Resource Development (ESRD)  
 Base Data provided by Spatial Data Warehouse Ltd.

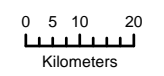
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Transverse Mercator Projection (10TM)  
North American Datum 1983 (NAD83)

Date: February 2014  
 Author: Oil Sands Operations, Alberta Energy (SD)  
 Produced by: Resource Mapping & Analysis, Alberta Energy (JS)



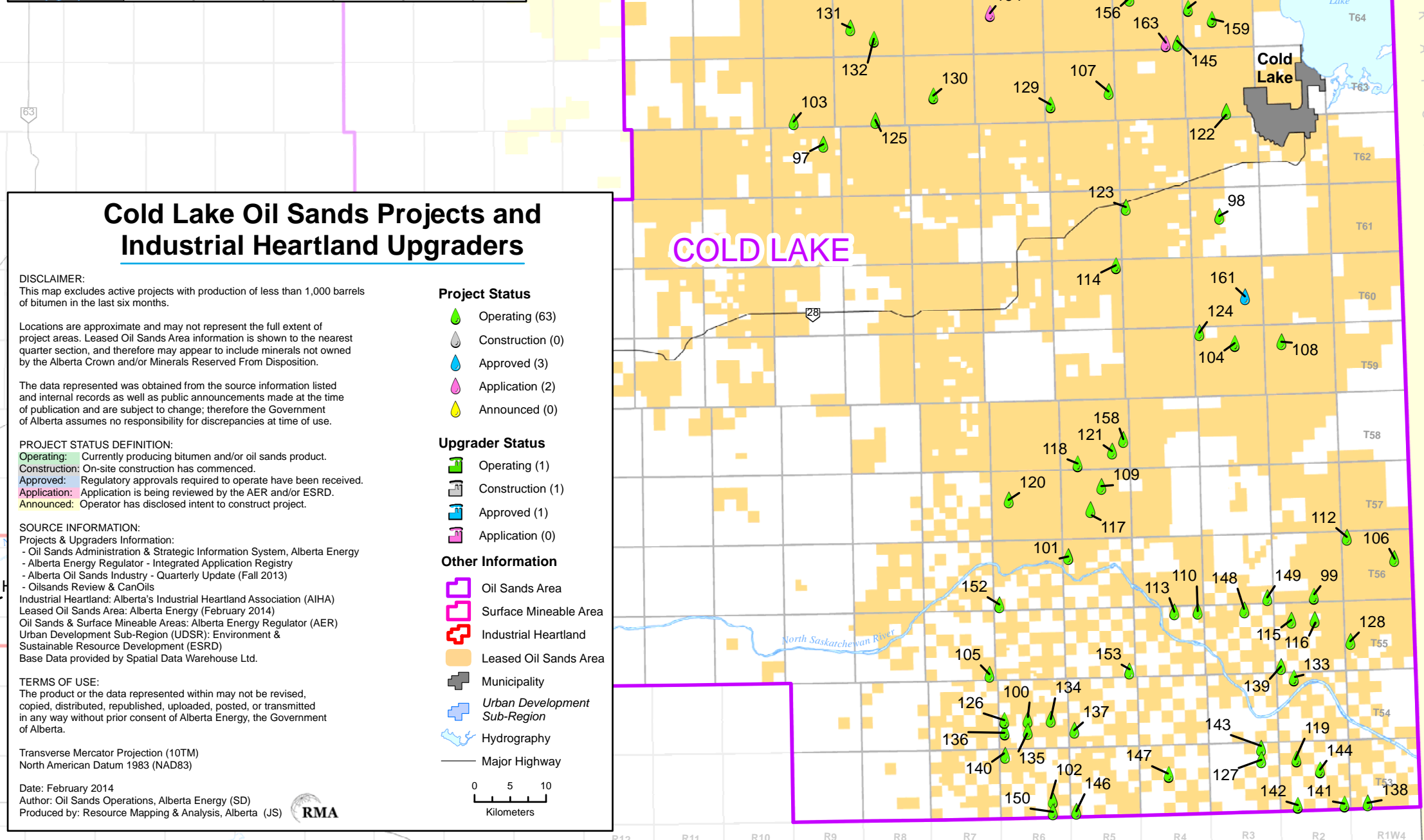
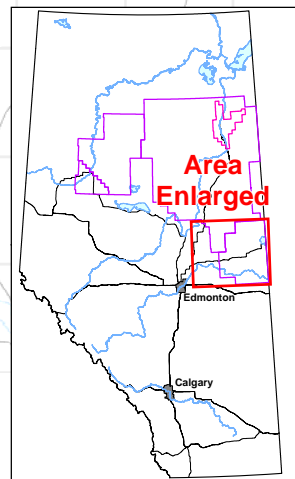
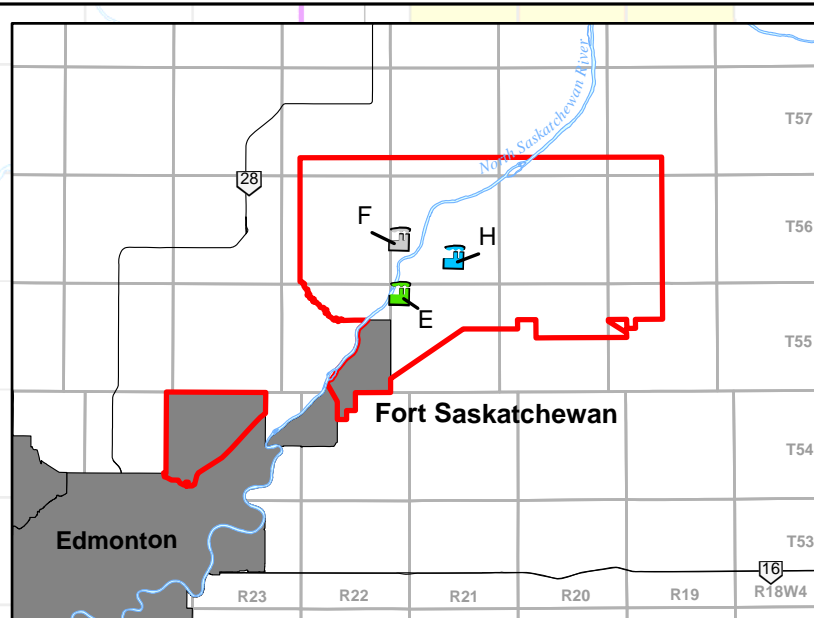
- Project Status**
- Operating (42)
  - Construction (13)
  - Approved (8)
  - Application (25)
  - Announced (8)
- Upgrader Status**
- Operating (4)
  - Construction (0)
  - Approved (1)
  - Application (3)
- Other Information**
- Oil Sands Area
  - Surface Mineable Area
  - Industrial Heartland
  - Leased Oil Sands Area
  - Municipality
  - Urban Development Sub-Region
  - Hydrography
  - Major Highway



REF. #	OPERATOR - PROJECT NAME	PROJECT TYPE	STAGE
<b>Upgraders</b>			
A	CNRL - Horizon	Upgrader	Operating
B	Nexen - Long Lake	Upgrader	Operating
C	Suncor - Base and Millennium	Upgrader	Operating
D	Synchrude - Mildred Lake	Upgrader	Operating
G	Value Creation - Terre de Grace Pilot	Upgrader	Approved
I	Nanhoe - Tamarack	Upgrader	Application
J	Value Creation - Advanced TriStar	Upgrader	Application
K	Value Creation - Tristar	Upgrader	Application
<b>Athabasca Oil Sands Area</b>			
1	Larlina Energy - Saleski SAGD Pilot	Experimental	Operating
2	Suncor - Dover Demonstration	Experimental	Operating
3	CNRL - Horizon	Mining	Operating
4	Imperial Oil - Keari	Mining	Operating
5	Shell - Jackpine Mine	Mining	Operating
6	Shell - Muskeg River Mine	Mining	Operating
7	Suncor - Suncor Oil Sands	Mining	Operating
8	Synchrude - Synchrude Mine	Mining	Operating
9	Cenovus - Pelican Lake III	Primary	Operating
10	CNRL - Brinnell	Primary	Operating
11	CNRL - Cherpeta	Primary	Operating
12	CNRL - Goodlow	Primary	Operating
13	CNRL - South Brinnell	Primary	Operating
14	CNRL - South Wabasca	Primary	Operating
15	CNRL - Wabasca North	Primary	Operating
16	CNRL - Woodenhouse	Primary	Operating
17	Husky - Amadou	Primary	Operating
18	Husky - McMullen Primary Heavy Oil	Primary	Operating
19	Legacy O&G - Brinnell 9774	Primary	Operating
20	Sunshine Oilsands - Muskwa	Primary	Operating
21	Black Pearl Resources - Blackrod SAGD Pilot	Thermal	Operating
22	Cenovus - Christina Lake Thermal	Thermal	Operating
23	Cenovus - Foster Creek	Thermal	Operating
24	Cenovus - Pelican Lake Grand Rapids	Thermal	Operating
25	CNRL - Kirby Commercial Project	Thermal	Operating
26	Connacher - Algar	Thermal	Operating
27	Connacher - Great Divide	Thermal	Operating
28	Conoco Phillips - Summit	Thermal	Operating
29	Devon - Jackfish 2 SAGD Thermal Project	Thermal	Operating
30	Devon - Jackfish SAGD Thermal Project	Thermal	Operating
31	Grizzly Oil Sands - Algar Lake	Thermal	Operating
32	Husky - McMullen Thermal Conduction Pilot	Thermal	Operating
33	JACOS - Hangingstone	Thermal	Operating
34	Larlina Energy - Germain	Thermal	Operating
35	MEG Energy - Christina Lake Regional	Thermal	Operating
36	MEG Energy - Christina Lake Regional Project Phase 3 SE	Thermal	Operating
37	Nexen - Long Lake	Thermal	Operating
38	Southern Pacific - STP McKay SAGD	Thermal	Operating
39	Statoil - Leismer Demonstration Project	Thermal	Operating
40	Suncor - Firebag	Thermal	Operating
41	Suncor - MacKay River	Thermal	Operating
42	Sunshine Oilsands - Harper	Thermal	Operating
43	Suncor - Fort Hills Oil Sands Project	Mining	Construction
44	Total - Joslyn North Mine	Mining	Construction
45	Athabasca Oil Sands - Hangingstone	Thermal	Construction
46	Bion Energy - MacKay River	Thermal	Construction
47	Cenovus - Clearwater Thermal Project	Thermal	Construction
48	Cenovus - Narrow Lake	Thermal	Construction
49	Devon - Jackfish 3 SAGD Project	Thermal	Construction
50	Harvest Operations - BlackGold	Thermal	Construction
51	Husky - Sunrise Thermal	Thermal	Construction
52	JACOS - Hangingstone Expansion Project	Thermal	Construction
53	N-Solv Corporation - Dover	Thermal	Construction
54	Statoil - Corner	Thermal	Construction
55	Sunshine Oilsands - West Ellis	Thermal	Construction
56	Athabasca Oil Sands - Dover West Carbonates (Leduc)	Experimental	Approved
57	Oak Point Energy - Lewis SAGD Pilot	Experimental	Approved
58	BP P.L.C. - Terre de Grace	Thermal	Approved
59	Bion Energy - Dover Commercial Project	Thermal	Approved
60	Cenovus - West Kirby	Thermal	Approved
61	CNRL - Kirby Expansion (North)	Thermal	Approved
62	Suncor - Meadow Creek	Thermal	Approved
63	Sunshine Oilsands - Thickwood	Thermal	Approved
64	Husky - Saleski Carbonate Pilot	Experimental	Application
65	Shell - Pierre River	Mining	Application
66	Suncor - Voyageur South	Mining	Application
67	Teck Resources - Frontier	Mining	Application
68	Athabasca Oil Sands - Dover West Sands & Classics	Thermal	Application
69	Black Pearl Resources - Blackrod Commercial	Thermal	Application
70	Cavalier Energy Inc - Hoole	Thermal	Application
71	Cenovus - Telephone Lake Borealis	Thermal	Application
72	CNRL - Grouse	Thermal	Application
73	Devon - Pike	Thermal	Application
74	Grizzly Oil Sands - May River	Thermal	Application
75	Grizzly Oil Sands - Thickwood	Thermal	Application
76	Imperial Oil - Aspen	Thermal	Application
77	Nanhoe Energy - Tamarack	Thermal	Application
78	Koch - Muskwa	Thermal	Application
79	Marathon Oil Corporation - Birchwood	Thermal	Application
80	MEG Energy - Summit	Thermal	Application
81	OSUM - Sepiko Kesik	Thermal	Application
82	Prosper Petroleum Ltd. - Rigel	Thermal	Application
83	SilverWillow Energy - Audet Pilot	Thermal	Application
84	Statoil - Hangingstone	Thermal	Application
85	Statoil - Thornbury	Thermal	Application
86	Sunshine Oilsands - Legend Lake	Thermal	Application
87	Summont Energy - Wildwood	Thermal	Application
88	Value Creation - Advanced TriStar	Thermal	Application
89	Athabasca Oil Sands - Birch	Thermal	Announced
90	Cenovus - East McMurray	Thermal	Announced
91	Cenovus - Steepbank	Thermal	Announced
92	Cenovus - Winefred Lake	Thermal	Announced
93	CNRL - Birch Mountain	Thermal	Announced
94	CNRL - Gregoire Lake	Thermal	Announced
95	Suncor - Chard	Thermal	Announced
96	Suncor - Lewis	Thermal	Announced

**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.





REF. #	OPERATOR - PROJECT NAME	PROJECT TYPE	STAGE
<b>Upgraders</b>			
E	Shell - Scotford	Upgrader	Operating
F	North West Upgrading - Redwater	Upgrader	Construction
H	Value Creation - Heartland	Upgrader	Approved
<b>Cold Lake Oil Sands Area</b>			
97	Baytex - Mann Lake East	Primary	Operating
98	Baytex - Reita Lake III	Primary	Operating
99	Black Pearl Resources - John Lake	Primary	Operating
100	Bonavista Energy - Lindbergh Louis	Primary	Operating
101	Bonavista Energy - Passage Elk	Primary	Operating
102	Bonavista Energy - Swimming	Primary	Operating
103	CNRL - Ashmont	Primary	Operating
104	CNRL - Beartrap	Primary	Operating
105	CNRL - Derwent 11574	Primary	Operating
106	CNRL - East Fishing Lake	Primary	Operating
107	CNRL - Edward Lake	Primary	Operating
108	CNRL - Elizabeth	Primary	Operating
109	CNRL - Elk Point	Primary	Operating
110	CNRL - Elk Point Project	Primary	Operating
111	CNRL - Fire Tower	Primary	Operating
112	CNRL - Fishing Lake	Primary	Operating
113	CNRL - Frog Lake	Primary	Operating
114	CNRL - Ft. Kent	Primary	Operating
115	CNRL - John Lake	Primary	Operating
116	CNRL - John Lake 11428	Primary	Operating
117	CNRL - Lindbergh North	Primary	Operating
118	CNRL - Lindbergh Primary	Primary	Operating
119	CNRL - Marwayne	Primary	Operating
120	CNRL - Moose Hills	Primary	Operating
121	CNRL - North Murphy Lindbergh	Primary	Operating
122	CNRL - Ranger Cold Lake	Primary	Operating
123	CNRL - Reita Lake 11089	Primary	Operating
124	CNRL - Reita Lake II	Primary	Operating
125	CNRL - Seibert Lake	Primary	Operating
126	CNRL - South Lindbergh	Primary	Operating
127	CNRL - West Marwayne	Primary	Operating
128	Devon - East Tulabi John Lake	Primary	Operating
129	Devon - Iron River	Primary	Operating
130	Devon - Manatokan	Primary	Operating
131	Devon - Manatokan 10310	Primary	Operating
132	Devon - Mann North	Primary	Operating
133	Devon - Tulabi/John Lake	Primary	Operating
134	Harvest Operations - Lindbergh South	Primary	Operating
135	Husky - Lindbergh 10259	Primary	Operating
136	Husky - Lindbergh 10619	Primary	Operating
137	Husky - Lindbergh 10812	Primary	Operating
138	Husky - Lindbergh 11041	Primary	Operating
139	Husky - Lindbergh 11205	Primary	Operating
140	Husky - Lindbergh 9873,11822,11541	Primary	Operating
141	Husky - Marwayne 10597	Primary	Operating
142	Husky - Marwayne 11287	Primary	Operating
143	Husky - Marwayne 7990	Primary	Operating
144	Husky - Marwayne 8655	Primary	Operating
145	Husky - Tucker Lake 9835	Primary	Operating
146	Long Run Exploration - Lindbergh 10631	Primary	Operating
147	Solara - Lindbergh 11429	Primary	Operating
148	Twin Butte Energy - Frog Lake	Primary	Operating
149	Twin Butte Energy - Frog Lake 11256	Primary	Operating
150	Twin Butte Energy - Swimming 11191	Primary	Operating
151	CNRL - Burnt Lake	Thermal	Operating
152	CNRL - Elk Point CA	Thermal	Operating
153	CNRL - Lindbergh CA	Thermal	Operating
154	CNRL - Primrose	Thermal	Operating
155	CNRL - Wolf Lake CA	Thermal	Operating
156	Husky - Tucker	Thermal	Operating
157	Imperial Oil - Cold Lake	Thermal	Operating
158	Pengrowth - Lindbergh SAGD Pilot	Thermal	Operating
159	Shell - Orion	Thermal	Operating
160	Husky - Caribou Lake	Thermal	Approved
161	Koch - Gemini	Thermal	Approved
162	OSUM - Taiga	Thermal	Approved
163	Birchwood Resources - Sage Thermal Pilot	Thermal	Application
164	Devon - Walleye	Thermal	Application

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## Cold Lake Oil Sands Projects and Industrial Heartland Upgraders

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 North American Datum 1983 (NAD83)

Date: February 2014  
 Author: Oil Sands Operations, Alberta Energy (SD)  
 Produced by: Resource Mapping & Analysis, Alberta (JS)

**Project Status**

- Operating (63)
- Construction (0)
- Approved (3)
- Application (2)
- Announced (0)

**Upgrader Status**

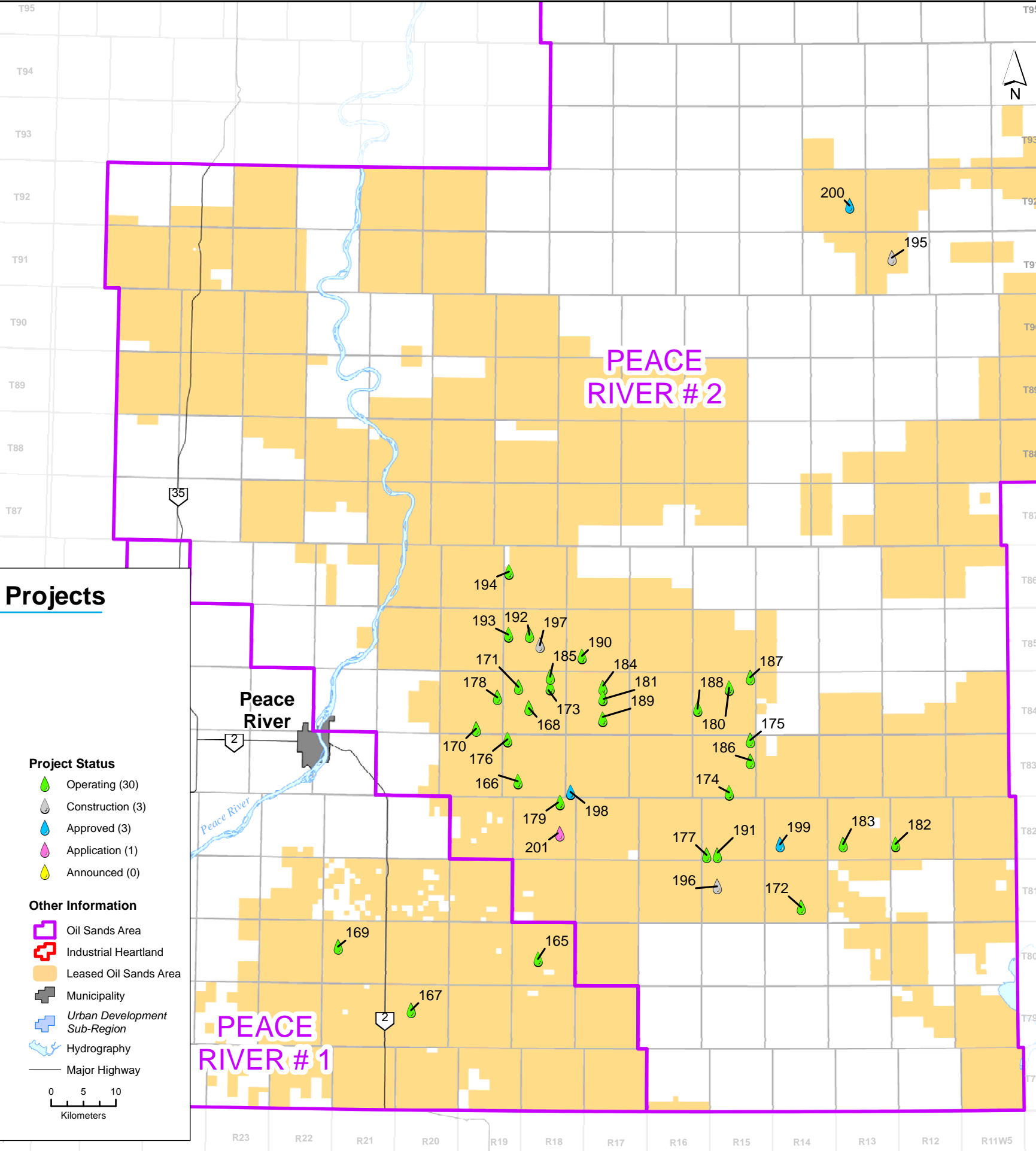
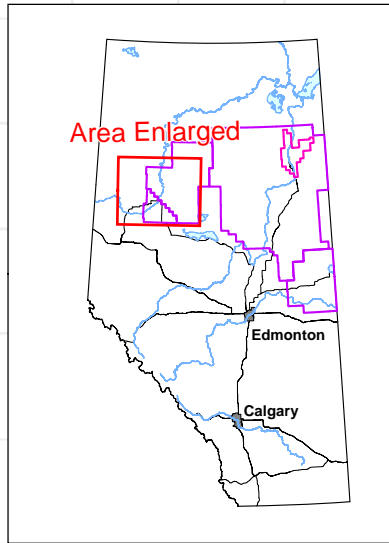
- Operating (1)
- Construction (1)
- Approved (1)
- Application (0)

**Other Information**

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

0 5 10  
Kilometers





REF. #	OPERATOR - PROJECT NAME	PROJECT TYPE	STAGE
Peace River Oil Sands Area			
165	Baytex - Dawson 11327	Primary	Operating
166	Baytex - Harmon Valley Bluesky	Primary	Operating
167	Baytex - Reno	Primary	Operating
168	Baytex - Seal Bluesky	Primary	Operating
169	Baytex - Tangent 11437	Primary	Operating
170	Baytex - West Harmon Valley Bluesky	Primary	Operating
171	Husky - Cadotte Heavy Oil	Primary	Operating
172	Koch - Seal South	Primary	Operating
173	Murphy Oil - Cliffdale	Primary	Operating
174	Murphy Oil - Murphy Seal	Primary	Operating
175	Murphy Oil - Peace River	Primary	Operating
176	Penn West Petroleum - Harmon Valley	Primary	Operating
177	Penn West Petroleum - Seal 11099	Primary	Operating
178	Penn West Petroleum - Seal Cadotte	Primary	Operating
179	Penn West Petroleum - Seal Harmon Valley South	Primary	Operating
180	Penn West Petroleum - Seal North	Primary	Operating
181	Shell - Cadotte 10746	Primary	Operating
182	Shell - Chipmunk	Primary	Operating
183	Shell - Chipmunk II	Primary	Operating
184	Shell - Cliffdale	Primary	Operating
185	Shell - Galloway	Primary	Operating
186	Shell - Seal I	Primary	Operating
187	Shell - Seal-Northern Cadotte Block	Primary	Operating
188	Shell - Seal-Northern Cadotte Block II	Primary	Operating
189	Baytex - Cliffdale	Thermal	Operating
190	Murphy Oil - Seal Cadotte CSS	Thermal	Operating
191	Penn West Petroleum - Dawson Seal	Thermal	Operating
192	Shell - Peace River	Thermal	Operating
193	Shell - PRC 32 & 33	Thermal	Operating
194	Shell - SR 2000	Thermal	Operating
195	Andora - Sawn Lake	Thermal	Construction
196	Petrobank - Dawson	Thermal	Construction
197	Shell - Carmon Creek	Thermal	Construction
198	Penn West Petroleum Ltd. - Seal Harmon Valley South Thermal Pilot	Experimental	Approved
199	Penn West Petroleum - Seal Main East	Primary	Approved
200	Northern Alberta Oil - Sawn Lake	Thermal	Approved
201	Baytex - Walrus	Primary	Application

## Peace River Oil Sands Projects

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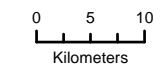
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- Project Status**
- Operating (30)
  - Construction (3)
  - Approved (3)
  - Application (1)
  - Announced (0)

- Other Information**
- Oil Sands Area
  - Industrial Heartland
  - Leased Oil Sands Area
  - Municipality
  - Urban Development Sub-Region
  - Hydrography
  - Major Highway



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