

COSIA Members' Mining Operations: Reclamation and Disturbance Data (Cumulative to December 31, 2019) Reported by Mine Site/Facility												
Mine Site/ Facility	Status of Land (Reported in Hectares), as Defined by Alberta Environment and Parks (2007) <sup>1</sup>											
	EPEA Approved Footprint	Mine Site Footprint	Plant Site Footprint	Total Active Footprint	<sup>2</sup> Cleared	<sup>3</sup> Disturbed (Used for Mine or Plant Purposes)	<sup>4</sup> Ready for Reclamation (No Longer used for Mine or Plant Purposes)	Soils Placed (Terrestrial, Wetlands & Aquatics)	<sup>5</sup> Permanent Reclamation (Terrestrial)	<sup>5</sup> Permanent Reclamation (Wetlands & Aquatics)	<sup>6</sup> Temporary Reclamation (Terrestrial)	<sup>7</sup> Certified
Canadian Natural Horizon	18,683	11,241	2,551	11,711	3,202	7,480	0	86	598	79	266	0
Canadian Natural Horizon South	7,520	5,413		5,413	4,283	1,129	0	0	0	0	0	0
Imperial Kearn	26,480	8,150	279	8,891	1,484	7,020	0	11	52	33	290	0
Canadian Natural Jackpine	7,669	5,420	271	5,691	717	4,712	0	76	125	5	57	0
Suncor Base Operations	23,954	21,926	318	22,245	1,783	17,739	156	166	2,352	48	0	0
Suncor Fort Hills	18,001	10,320	139	10,459	4,039	6,058	2	0	19	16	325	0
Canadian Natural Muskeg River Mine	10,942	8,439	326	8,765	1,091	7,168	0	0	357	0	149	0
Synchrude Aurora North	10,049	6,927	107	7,034	677	5,760	0	14	250	0	334	0
Synchrude Mildred Lake	25,824	22,205	511	22,716	1,487	15,474	0	1,004	2,866	1,110	775	104
<b>COSIA Members Totals</b>	<b>149,122</b>	<b>100,042</b>	<b>4,502</b>	<b>102,924</b>	<b>18,763</b>	<b>72,541</b>	<b>158</b>	<b>1,358</b>	<b>6,619</b>	<b>1,291</b>	<b>2,196</b>	<b>104</b>

COSIA Members' Mining Operations: Reclamation and Disturbance Data, as Reported Annually From 2009- 2019												
Year	Status of Land (Reported in Hectares) as Defined by Alberta Environment and Parks (AEP 2007) <sup>1</sup>											
	EPEA Approved Footprint	Mine Site Footprint	Plant Site Footprint	Total Active Footprint	<sup>2</sup> Cleared	<sup>3</sup> Disturbed (Used for Mine or Plant Purposes)	<sup>4</sup> Ready for Reclamation (No Longer Used for Mine or Plant Purposes)	Soils Placed (Terrestrial & Wetlands & Aquatics)	<sup>5</sup> Permanent Reclamation (Terrestrial)	<sup>5</sup> Permanent Reclamation (Wetlands & Aquatics)	<sup>6</sup> Temporary Reclamation (Terrestrial)	<sup>7</sup> Certified
2009 <sup>b</sup>	134,155	63,373	4,045	67,418	18,550	41,261	913	1,093	3,503	1,237	863	104
2010 <sup>b</sup>	135,157	67,924	3,527	71,451	17,047	46,773	394	1,534	3,652	1,271	780	104
2011 <sup>b</sup>	136,647	72,598	3,566	76,164	17,050	51,334	250	1,513	3,548	1,229	1,241	104
2012 <sup>b</sup>	145,299	80,309	4,083	84,395	20,435	55,902	372	1,447	3,827	1,215	1,227	104
2013 <sup>b</sup>	144,437	85,178	4,209	89,488	19,265	61,832	181	1,543	4,178	1,269	1,244	104
2014 <sup>b</sup>	144,437	88,948	4,419	90,416	18,931	65,402	86	1,527	4,630	1,271	1,307	104
2015	142,807	89,541	4,503	94,095	18,065	66,559	294	1,305	4,892	1,272	1,632	104
2016	142,807	90,113	5,189	95,301	17,712	67,590	376	1,450	5,063	1,275	1,896	104
2017 <sup>a</sup>	142,099	94,133	4,735	98,920	18,571	70,248	234	1,070	5,498	1,276	2,022	104
2018 <sup>a</sup>	143,675	96,662	4,498	101,155	18,713	71,638	124	1,347	5,929	1,291	2,120	104
2019	149,122	100,042	4,502	102,924	18,763	72,541	158	1,358	6,619	1,291	2,196	104

<sup>a</sup>2017 and 2018 numbers were corrected in 2020 to remove footprint from Total Joslyn because this had been erroneously included in the footprint for Canadian Natural Horizon South

<sup>b</sup>2009-2014 numbers were adjusted in 2021 to correct a transcription error

<sup>1</sup>Alberta Environment and Parks (2007) categorizes and defines the Status of Land as follows: <sup>2</sup>Cleared = Cleared of Trees; <sup>3</sup>Disturbed = soils disturbed (i.e., used for mine or plant purposes); <sup>4</sup>Ready for Reclamation = no longer used for mine of plant purposes; <sup>5</sup>Permanent Reclamation = Reclaimed to Terrestrial, Wetlands or Aquatics habitat; <sup>6</sup>Temporary Reclamation= erosion control or vegetation has occurred where future disturbance is expected to occur; <sup>7</sup>Certified = Certified Reclaimed by GOA. Full Definitions are available at: <http://osip.alberta.ca/library/Dataset/Details/29>

COSIA Members' In situ Operations: Reclamation and Disturbance Data (Cumulative to December 31, 2019), Reported by Company and Project Facility																			
Status of Land (Reported in Hectares) as defined by SED 001 Alberta Energy Regulator (AER 2006)																			
COMPANY	PROJECT FACILITY	CONSTRUCTION			OPERATION				Undergoing Remediation	Ready for Reclamation	PERMANENT RECLAMATION ACTIVITIES					RECLAIMED			
		Cleared	Disturbed	Total Area under Construction	Active Operation	Inactive Operation	Temporary Land Reclamation	Total Area Operational			Pad Materials Removed	Recontoured	Soil Placed	Revegetated	Wetland Reclamation Trial	Wetland & Aquatics Reclamation	Total Area Undergoing Land Reclamation	Permanently Reclaimed	Area Certified
Cenovus	Foster Creek	64	109	171	891	8	53	951	0	0	0	2	44	0	0	0	47	30	0
Cenovus	Christina Lake	44	14	102	837	15	100	950	0	0	0	15	0	0	0	0	76	0	0
Cenovus	Narrows Lake	0	0	0	367	6	0	373	0	0	0	0	0	0	0	0	0	0	0
Imperial	Cold Lake Operations	72	217	289	1026	23	1570	2619	52	0	0	3	55	1	18	78	610	0	0
Imperial	Aspen	240	97	337	100	0	73	173	0	0	0	0	0	0	0	0	0	0	0
Husky	Sunrise	6	14	20	456	0	3	459	0	0	0	0	0	0	0	0	0	8	0
Husky	Tucker Lake	0	0	0	8	0	22	30	0	0	0	0	0	0	0	0	0	0	0
Suncor	Firebag	27	0	27	1166	0	0	1167	0	126	0	34	0	0	0	35	27	13	0
Suncor	MacKay River	8	11	19	421	13	1	436	0	15	0	0	0	0	0	0	7	7	1
ConocoPhillips	Surmont	13	20	33	803	126	50	979	0	0	0	0	15	0	0	15	0	0	0
Canadian Natural	Primrose Wolf Lake	133	114	247	661	11	606	1279	0	52	0	23	5	0	0	27	321	10	0
Canadian Natural	Pike	12	44	57	0	4	0	4	0	0	0	3	3	0	0	6	0	0	0
Canadian Natural	Peace River Complex	61	238	298	255	87	39	381	2	42	0	0	28	0	0	28	7	9	0
Canadian Natural	Kirby	0	0	0	284	20	114	397	0	0	0	0	97	0	0	99	8	0	0
Canadian Natural	Jackfish	0	79	79	558	24	0	581	0	23	0	23	0	0	0	23	0	0	0
<b>COSIA Members -&gt;</b>		<b>680</b>	<b>957</b>	<b>1678</b>	<b>7815</b>	<b>336</b>	<b>2630</b>	<b>10777</b>	<b>54</b>	<b>235</b>	<b>0</b>	<b>2</b>	<b>145</b>	<b>203</b>	<b>1</b>	<b>18</b>	<b>434</b>	<b>1018</b>	<b>33</b>

The categories presented here are consistent with those outlined in SED 001 (AER, 2016); however, they do not clearly articulate the difference between areas cleared of trees or those with soil disturbance past the construction category. This is an important differentiation, as areas without soil disturbance are less impacted and likely require only revegetation to meet the definition of permanently reclaimed. Some of the land that supports in situ operations is only ever cleared of trees, including observation wells and associated winter access roads.