Alberta Oil and Gas Orphan Abandonment and Reclamation Association

Orphan Well Association
2016/17 Annual Report

June 2017

This page is intentionally blank.

Table of Contents

.

Terra Energy Corp. 00/05-36-074-17W5/0

CHAIR'S MESSAGE

The Orphan Well Association (OWA) is an independent non-profit organization that operates under the delegated legal authority of the Alberta Energy Regulator (AER). Our funding comes primarily from the upstream oil and gas industry. Orphan properties are wells, pipelines, facilities and associated sites which have been left behind by defunct or insolvent companies and are designated as orphans by the AER.

To help the OWA address the recent growth in orphan inventory, industry has continued its funding commitment to orphans by again contributing $30 million through the Orphan Fund levy in 2016. Looking forward, the province is planning to lend industry significant funding to the OWA to help it deal with its orphan inventory over the next three years. Industry is planning to pay back this loan over an agreed upon number of years.

Using learnings from the prior year, the OWA was able to again increase the number of completed well abandonments and also attend to the timely inspection and safekeeping of the new orphan wells, pipelines and facilities inventory in 2016/17.

Brad Herald

Brad Herald, Chair
Orphan Well Association

BACKGROUND

Orphan Well Association

The Alberta Oil and Gas Orphan Abandonment and Reclamation Association is a non-profit organization which operates under the registered trade name of the Orphan Well Association (OWA). The OWA operates as a separate, financially-independent organization under the legal authority delegated by the Alberta Energy Regulator (AER). The AER was established in June 2013 and combined the functions of the Alberta Energy Resources Conservation Board (ERCB) and Alberta Environment and Parks (AEP), that regulate the upstream oil and gas industry.

The OWA was incorporated under the Alberta Societies Act in 2001 and started operations in 2002. Its formation is the result of collaborative efforts between the upstream oil and gas industry and the Alberta provincial government. The mandate of the OWA is to manage the abandonment of upstream oil and gas orphan wells, pipelines and facilities, and the reclamation of associated sites in Alberta.

The Alberta government supports the OWA through the AER and AEP by:

(1) Initiating appropriate enforcement actions to ensure that responsible parties address their obligations to deal with their abandonment and reclamation liabilities, and

(2) Developing appropriate policies to minimize unfunded orphan liability and to prevent the creation of new orphans.

The OWA, AER and AEP have a signed Memorandum of Understanding which outlines the roles and responsibilities of each organization regarding orphans. The AER is responsible for identifying and investigating potential orphans. Orphans are defined as specific properties that can be wells, pipelines, facilities or associated sites that have been investigated by the AER for legally responsible and/or financially viable parties. If no parties are identified, the AER then designates individual properties as orphans through a memo.

As part of this process, after investigation, the AER first deems companies that hold well licenses as defaulting working interest participants under the *Oil and Gas Conservation Act* and the *Orphan Fund Delegated Administration Regulation*, and then designates specific properties as orphans in a memo.

This designation, along with Abandonment Orders and Environmental Protection Orders that are issued to the defunct or insolvent licensee or operator, provides the OWA the right of access to conduct our abandonment or reclamation activities. AEP participates in the orphan process by providing policy guidance and by participating on the OWA Board of Directors and by participating on relevant committees.

The AER collects funds from the upstream oil and gas industry through an annual Orphan Fund levy and other fees. These funds are then remitted to the OWA to cover the expenditures on orphan abandonment and reclamation activities. Each year, the OWA prepares an annual budget and a three year business plan with a proposed Orphan Fund levy amount.

This Orphan Fund levy amount and budget is then approved by its industry voting Member organizations: Canadian Association of Petroleum Producers (CAPP), Explorers and Producers Association of Canada (EPAC) and the AER. The Orphan fund levy amount is then requested in letters from CAPP and EPAC and the OWA to the AER for approval by the government of Alberta through Alberta Treasury. When this occurs, the AER then collects the annual Orphan Fund levy from industry in the following year.

Low commodity pricing starting in late 2014 and continuing into 2017 combined with AER updates to its Liability Management system in 2013, 2014 and 2015, has resulted in an unprecedented number of corporate failures in the oil and gas industry which has contributed to rapid growth in the inventory of orphan properties in 2016 and 2017.

Tallgrass Energy Corp. 00/08-08-051-09W5/0

Directors of the Orphan Well Association

Six representatives are appointed as directors by our Member organizations. Our directors and the Member organization they represent are listed as follows:

- Brad Herald, Vice-President, Canadian Association of Petroleum Producers
- David Wolf (Stone Petroleums Ltd.), Explorers and Producers Association of Canada
- Orest Kotelko (Canadian Natural Resources Limited), Canadian Association of Petroleum Producers
- Dave Marks, (Cenovus Energy Inc.), Canadian Association of Petroleum Producers
- Richard Dahl, (Questfire Energy Corp.), Explorers and Producers Association of Canada
- Mark Taylor, Alberta Energy Regulator
- Ronda Goulden, Alberta Environment and Parks (honorary non-voting director)

HISTORICAL SUMMARY

Historical Summary of Funding

A Historical Summary of Funding for the OWA orphan activities is shown in Figure 1 and Table 1. Out of the over $305 million that has been collected and invested since 1992 to fund orphan activities, $262 million or 86% was contributed by the upstream oil and gas industry in Alberta. 10% was contributed by the provincial government and 4% came from interest and other sources such as equipment salvage.

In addition to industry contributions, Alberta Energy made a one-time grant funding to the OWA of $30 million as part of the Government of Alberta's three part economic stimulus plan in 2009. Alberta Energy also made a small contribution of $50,000 in 2012 as support for additional work that it requested under Directive 079 to conduct abandoned well locating and testing in urban areas for wells that are licensed to defunct companies and were not designated as orphan.

Prior to September 1997, the AER predecessor (Alberta Energy and Utilities Board or EUB) had the legal authority to conduct well abandonments on orphans. The provincial legislation was then expanded to give the AER the legal authority to conduct additional orphan activities such as pipeline abandonment, facility decommissioning and the reclamation of associated sites. From September 1997 until March 2002, the EUB conducted the abandonment, decommissioning and reclamation of orphans under a program named the Alberta Orphan Program. After the OWA was incorporated in 2001 as a separate non-profit organization from the AER under *Orphan Fund Delegated Administration Regulation* (Alberta Regulation 45/2001), the OWA commenced operations on April 1, 2002 under the same orphan scope.

Figure 1 – Historical Summary of Funding

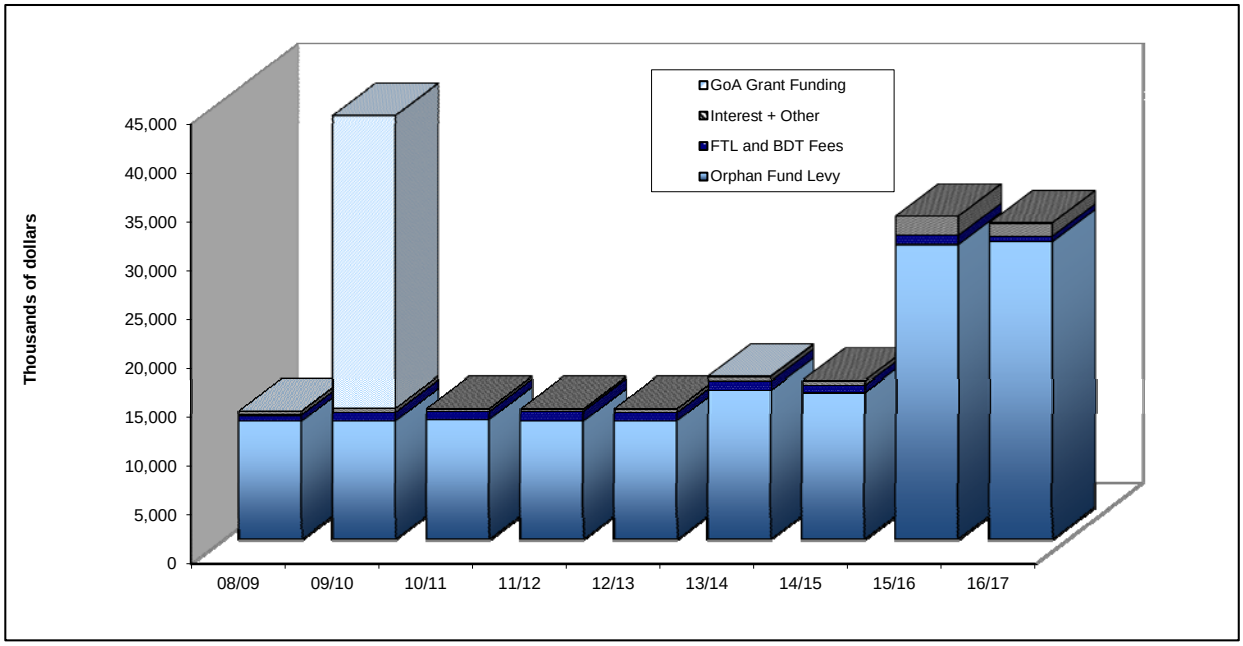


Table 1 – Historical Summary of Funding ($k)

Year (Apr 1 to Mar 31)	Prior Years	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	Totals
GoA Grant Funding			30,000			50					30,050
Orphan Fund Levy	87,164	12,087	12,110	12,274	12,076	12,151	15,242	15,000	30,169	30,448	238,721
FTL and BDT Fees	15,830	640	890	820	1,040	850	930	760	944	580	23,284
Interest + Other	7,020	383	410	272	202	367	429	440	1970	1352	12,845
Total Revenue ($k)	**110,014**	**13,110**	**13,410**	**13,366**	**13,318**	**13,368**	**16,601**	**16,200**	**33,083**	**32,380**	**304,900**

Until 2002 the Orphan Fund levy was collected by the AER based on the number of inactive wells held by each licensee on December 31st of the prior calendar year. The AER then implemented new changes to its liability program and as part of the changes, the Orphan Fund levy was collected by the AER based on each licensee's calculated proportionate share of total deemed industry liability as per application of the AER's Liability Licensee Rating program starting on April 1, 2002.

The other sources of funding for this program are contributed by industry through First Time Licensee fees and Regulator Directed Transfer fees (FTL and RDT fees). See Financial Highlights, Revenue for a description of these two fees.

Historical Summary of Expenditures

A Historical Summary of Operating Expenditures is shown below in Figure 2 and Table 2. This summary divides OWA operating expenditures into five types. As per the Financial Statements, Statement of Operations, four types of expenditures are considered Operating Expenditures (Well Abandonment, Pipeline Abandonment, Facility Decommissioning and Site Reclamation). The fifth type of expenditure is a combination of AER Enforcement Activities and industry Working Interest Claims (AER Enf Activities/WIC). See Financial Highlights, Expenditures Section for more information on these two types of expenditures.

To date, total expenditures on these five types of expenditures are $278 million. The bottom of Table 2 shows what makes up the difference between Historical Revenue ($305 million) and Historical Operating Expenditures ($278 million). The $27 million difference is comprised of the following:

- Orphan Fund Levy of $15.0 million collected for the following year 2017/18 operations, and
- Administration for 20 years (Admin for 20 yrs) of $11.6 million or 4.2% of total,
- Operating Balance of $0.25 million as of March 31, 2017.

Figure 2 –Historical Summary of Operating Expenditures

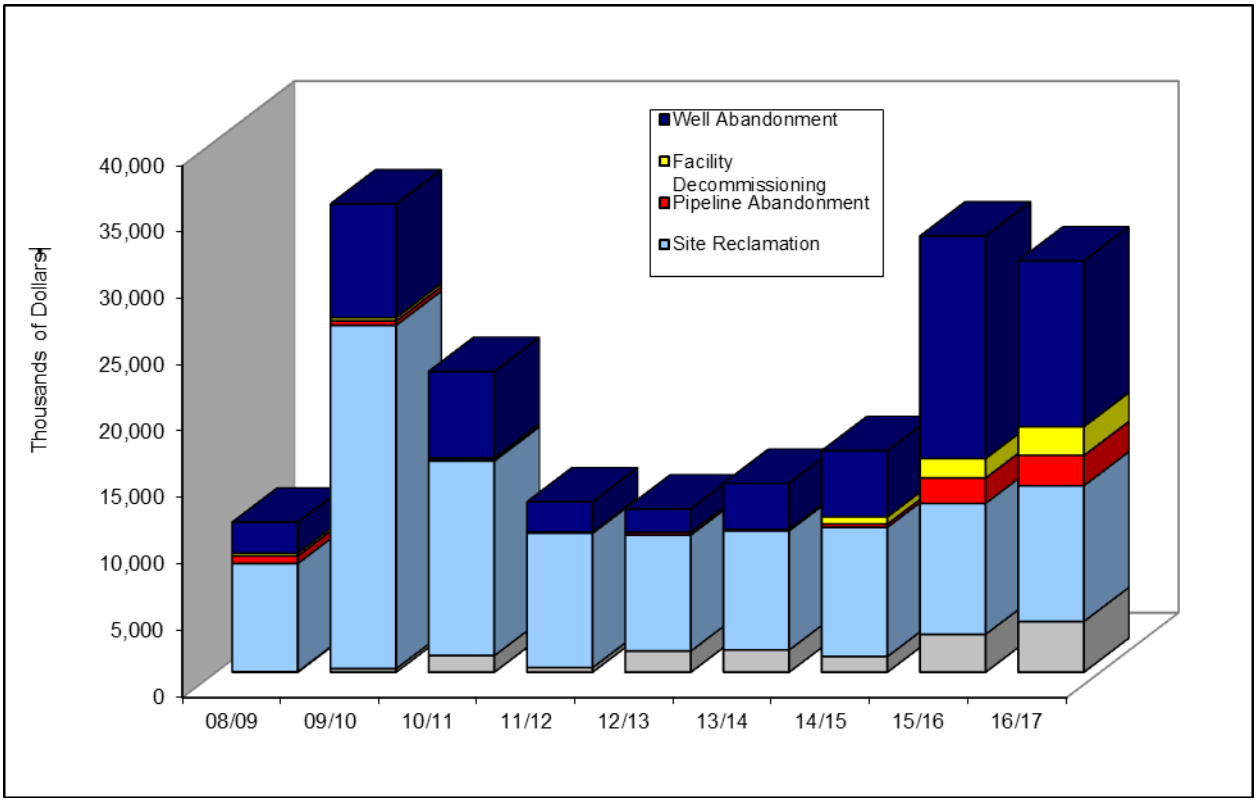


Table 2 – Historical Summary of Operating Expenditures ($k)

Year (Apr 1 to Mar 31)	Prior Years	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	Totals
Well Abandonment	35,470	2,324	8,553	6,497	2,271	1,728	3,462	4,981	16,742	12,483	94,511
AER Enf Activities/WIP	8,924	41	261	1,249	350	1,592	1,670	1,177	2,849	3,816	21,929
Site Reclamation	41,901	8,140	25,839	14,647	10,107	8,733	8,963	9,728	9,857	10,213	148,128
Pipeline Abandonment	1,440	571	339	154	85	194	91	248	1,913	2,283	7,318
Facility Decommissioning	1,317	205	241	81	1	28	28	528	1,457	2,158	6,044
Subtotal	89,052	11,281	35,233	22,628	12,814	12,275	14,214	16,662	32,818	30,953	277,930
Admin for 20 yrs											11,610
Orphan Fund Levy											15,000
Operating Balance											254
Total ($k)											**304,794**

OPERATING HIGHLIGHTS

In 2016/17, total expenditures of $30,953k were spent on Operating Activities (5.7% decrease from $32,818k in prior year). Summarized below is a table that shows the operating expenditures types and their percent of total expenditures for 2016/17. This includes payments made called Working Interest Claims which are claims by industry for their proportionate share of expenditures made for their defunct working interest partners. See Financial Highlights, Expenditures section for details.

Operating Expenditures ($k)		
Well Abandonment	12,483	40%
Pipeline Abandonment	2,283	8%
Facility Decommissioning	2,158	7%
Site Reclamation	10,213	33%
Working Interest Claims	3,816	12%
Total	30,953	100%

Note that the Operating Activities are listed above in the order that they are described in this report rather than by size of expenditure.

GP Resources Ltd. 00/01-11-026-14W4/0

Well Abandonment ($12,483k)

Well Abandonment expenditures in 2016/17 totaled $12,483k (a 23% decrease compared to $16,742k in the prior year). By focusing on efficiencies and by planning abandonment work in area projects, 232 well abandonments were completed compared to 185 in prior year which was a 25% increase in work completed with 23% less money.

The larger inventory of orphan wells provided an opportunity to plan orphan abandonment operations in area projects which allowed the OWA to operate more cost effectively in 2016/17. As well, because of low commodity pricing, obtaining competitive pricing of services also contributed to reducing well abandonment costs. The OWA changed its practice of doing turnkey abandonment work (where consulting firms pay all hired vendors on behalf of the OWA) to directly paying some services on selected projects to reduce its costs. This change in practice was accompanied with an increased diligence on safety for prequalifying direct paid vendors by the OWA.

Well Abandonment Description

Well abandonment is the proper plugging down hole and the wellhead removal at the surface of a well as per AER Directive 020 Well Abandonment Guide. Typical steps to abandon a well follow:

Zonal Abandonment: The oil or gas that is produced from a well comes from a specific interval inside the well. Operations conducted inside a well is commonly referred to as 'downhole' work. Zonal abandonment is the plugging of this production interval in the well or downhole. This can be done with a cement plug or a bridge (mechanical) plug combined with a cement plug. When a bridge plug is set, it must be pressure tested to 7 MPa for 10 minutes, and then covered with 8 vertical meters of Class G cement on top. The casing is then filled with a non-corrosive fluid or a non-saline (fresh) water before surface abandonment.

Remedial Repairs: If groundwater protection or porous zone isolation is required or if a well is leaking (typically methane gas), remedial repairs on the well are required. Remedial repairs which are also referred to as interventions, can be required when there are

- production casing leaks (gas leaking from inside the production casing),
- surface casing vent flows or scvf's (gas leaking from the annular space between the production casing and the surface casing),
- gas migration (gas leaking into the soil outside of the surface casing) from the rock formation below, or
- low production casing cement top which requires porous zone isolation and/or groundwater protection.

A typical remedial repair or intervention involves logging to locate cement outside the casing and/or to identify the leak source, perforating the casing and squeezing cement into the perforations. Note that for well abandonments, remedial repairs or interventions refer to downhole operations, and for site reclamation, remedial work that is often called remediation refers to dealing with contaminants in the soil or groundwater.

Groundwater Protection: Either well logs are available and are reviewed or the well is logged. Logging is used to identify and confirm that there is isolation outside the casing in the rock formation between the base of groundwater protection and the hydrocarbon formations below and between the base of groundwater protection and the protected intervals above. If required, a remedial repair will be conducted to provide adequate groundwater isolation.

Surface Abandonment: The well head is removed and the casing stubs are lowered and cut off 1 m minimum below ground level and capped with a vented cap. For wells that are located within 15 km of urban development, the minimum casing stub cut off depth is 2 m.

Orphan Well Inventory

This year, the number of new orphan wells in OWA inventory that need to be abandoned has increased 81% from 768 to 1391 wells. The increase is attributed to an increase in corporate insolvencies due to the low commodity pricing since the latter part of 2014.

See below for a summary of the Orphan Well Inventory as of March 31, 2017. A total of 928 new orphan wells were received for abandonment from the AER this year in comparison to 591 new orphan wells received in the prior year (57% increase). Note that there is a distinction between orphan wells that require abandonment and orphan sites that require reclamation. These two inventories are tracked and reported separately. See Page 32 for more information about the inventory for orphan sites that require reclamation.

Orphan Well Inventory	
Reported as of March 31, 2016	768 wells
New wells received in fiscal year	928 wells
Completed well abandonments	- 232 wells
Other well closure	- 73 wells
As of March 31, 2017	1391 wells

Well Abandonment Count

The Well Abandonment Count of the number of orphan well abandonments counted to date is shown below in Figure 3 and Table 3. The count is split into two well counts; wells which are abandoned by the OWA (*Well Abd OWA*) and wells which are abandoned by the AER as Enforcement Action (*Well Abd ENF*) that subsequently are designated as orphans by the AER. Note that the AER has reduced its enforcement work of this type and made no requests for reimbursement for enforcement activities this year so the count for Enforcement Action is zero in 2016/17.

Figure 3 – Well Abandonment Count

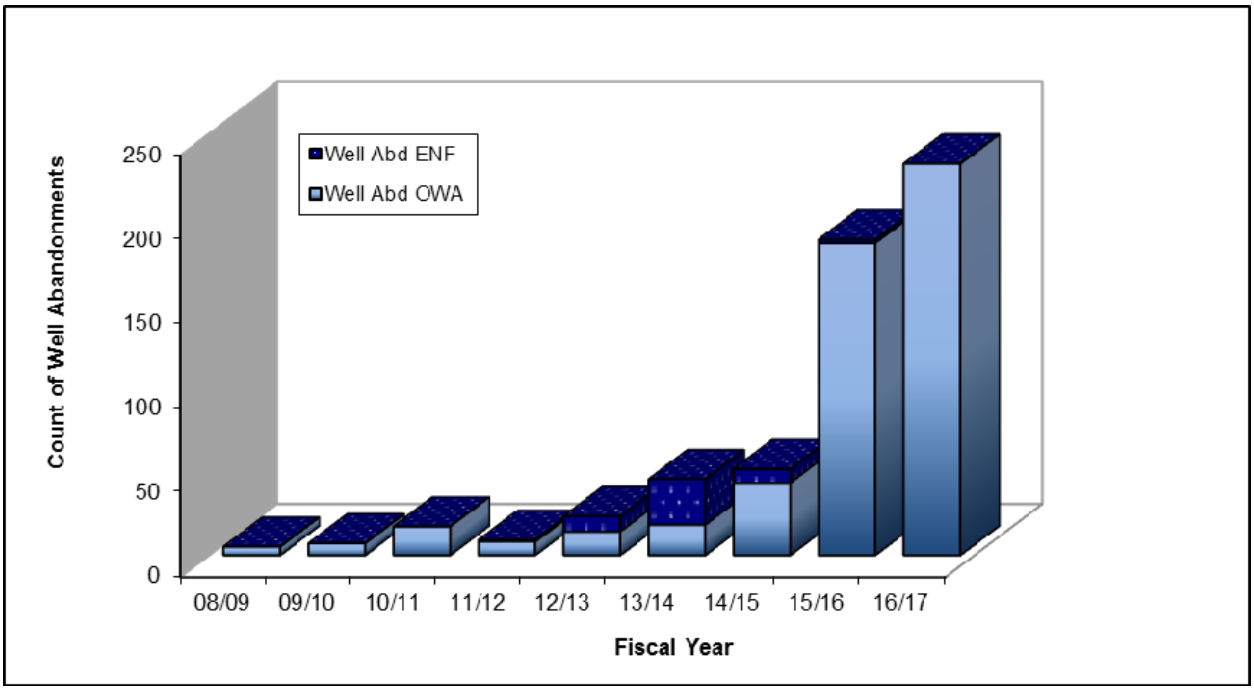


Table 3 – Well Abandonment Count

Fiscal Year (Apr 1 to Mar 31)	Prior Years	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	Total
Well Abd OWA	406	5	7	17	8	14	18	43	185	232	935
Well Abd ENF	139	0	0	0	1	9	27	8	2	0	186
Well Abd Count	**545**	**5**	**7**	**17**	**9**	**23**	**45**	**51**	**187**	**232**	**1121**

The terms used in Figure 3 and Table 3 are described below.

Well Abd OWA

Wells in this category are turned over to the OWA by the AER through a memo that designates specific properties (wells, pipeline, facilities or sites) as orphan. When designated orphan wells are properly abandoned or handled so that no further action is required by the OWA, they are counted. For example, if a well was designated as orphan for remedial repairs and it was confirmed that the well was abandoned properly and was not leaking, the well would be counted as handled. If a well was inspected and identified to have already been surface abandoned with no indications that it was leaking, the well would be counted as handled. If a well was designated as an orphan for abandonment and its well license was later transferred to an active company, it was counted as handled (administration closure). Since April 1, 2015, well transfers, previously abandoned wells, and lowering casing stubs are counted as administration closures and not counted in the well abandonment count for consistency with industry practices.

Well Abd ENF

Wells in this category were either abandoned by the AER as part of their enforcement activities on reluctant licensees or abandoned by the AER before 1997 as historical orphans. As part of their enforcement activities, the AER issues Abandonment Orders to all liable parties (licensees and working interest partners for wells and facilities, and licensees for pipelines). When dealing with a reluctant party that has a responsibility to abandon a well, the AER can elect to conduct the abandonment and attempt to recover the monies.

If the AER subsequently determines that the reluctant liable party is a defaulting working interest participant, the AER can then designate the specific properties as orphan for the purpose of reimbursement of any third party abandonment costs to the AER. The OWA then can reimburse the AER and take the well abandonment count in this category.

Neo Exploration Inc 00/12-28-009-13W4/0

Well Inspections

The OWA has established a procedure to attempt to contact landowners and notify them about the OWA and the orphan property (well, pipeline, facility or site) on their land before going out to visit the property. The OWA identifies landowner information through land titles and accordingly mails out packages to the landowner consisting of an OWA introductory letter, a landowner-feedback form, and a brochure describing the OWA. The landowners are then contacted by phone whenever possible to confirm access before inspections proceed.

In 2016/17, a total expenditure of $568k was made to conduct 859 well inspections. 813 of these inspections were conducted on new orphan sites. See below for a description of well inspections by location, count and average cost.

Tuscany Energy Inc. 00/08-12-012-14W4/0

Well Inspections	Count	Average ($)
New Well Inspections, Routine		
Southern 001-01W4 to 026-10W5	234	345
Central 027-01W4 to 056-12W6	327	492
Central North 057-001W4 to 077-012W6	60	954
Northern 077-01W4 to 126-012W6	142	559
New Well Inspections, Non-Routine*	50	2,697
Subtotal New Well Inspections		
(Routine and Non-Routine)	813	631
Repeat Inspections, remote or isolated locations**	46	1,182
Total	859	661

* New Well Inspections, Non-Routine includes wells that required multiple visits. This includes wells found to have surface casing vent flows (scvf) or gas migration (gm) which required additional visits to collect further information, for example, installing and removing meters to measure flow rate and stabilized shut in pressures. Costs also include additional gas sampling and lab analysis.

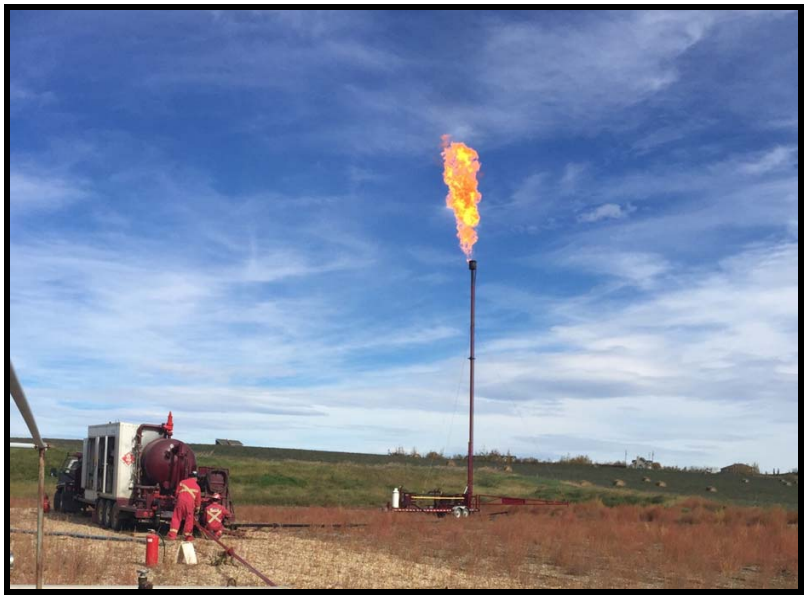
** Repeat Inspections, remote or isolated locations includes inspecting wells to confirm previous well repairs and inspection of long term and care and custody wells.

The total average cost of a well inspection in 2016/17 was reduced 30% from prior year ($661/well compared to $942/well in prior year). The average cost on a New Well Inspection, Routine was reduced 37% ($496/well compared to $785/well in prior year).

2016/17 cost savings were achieved through:

- Bidding out inspections through a formal Request for Bid (RFB) to obtain competitive pricing and assigning routine inspections to more cost competitive companies,
- Assigning inspection work in area projects to reduce travel expenses,
- Scheduling inspections for more efficient collection of vent flow data,
- Assigning well inspections to vendors doing pipeline and facility work to reduce multiple trips to the same locations.

In an effort to eliminate the need for multiple site visits to remote or high-risk sites, a combination of pipeline, facility and well inspection crews were retained to bleed-down pipelines, winterize facilities and inspect tied-in wells and facilities where possible. This project-based work was designed so crews could meet multiple objectives on a single trip to a remote site to reduce travel costs.



Terra Energy Corp. 00/15-15-071-07W6/0

Well Abandonment Operations

Well abandonment operations were conducted on a total of 264 orphan wells this year. Operation expenditures of $8,145k were spent to complete 232 well abandonments for an average cost of $35.1k each. This was less than the average cost to abandon the equivalent the AER Directive 11 wells at $44.1k each. Further details can be found in the Well Abandonment Highlights section.

Well operations were conducted on an additional 32 wells which were required further work ($1,775k expenditure). These wells were primarily zonal abandoned and require further operations before surface abandonment. Well operations were strategically deferred on these wells to provide an opportunity for cost efficiencies from grouping further investigation, logging, remedial repairs or other work in an area project with other wells at a later date.

However, remedial work was completed and not deferred on wellbores where winter access was necessary or access costs were high. The remaining expenditures for well abandonment operations were spent on inspections, maintenance for new wells or long term wells which required special attention, and project coordination.

Well Abandonment Highlights

The following is a description of highlights of well operations briefly described by type of operation in order of total expenditure by project.

1// Tallgrass Energy Corporation Projects

In 2016/17, 46 wells licensed to Tallgrass Energy Corporation were abandoned (61 wells abandoned in prior year). These wells were abandoned in three separate area projects. The areas are listed and described below in decreasing order of expenditures.

1 A) Bigoray Area, 051-09W5	*$1,427k*	*20 wells*
1 B) Alliance Area, 040-12W4	*$673k*	*17 wells*
1 C) Bruce Lake Area, 038-07W4	*$291k*	*9 wells*

1 A) Bigoray 051-09W5 (20 wells abandoned for an average of $71.4k)

The wells in the Bigoray area produced sweet oil primarily from the Cardium (~1450m) and/or Belly River (~1100m) Formations. 11 of the 20 Bigoray wells required remedial repairs with up to five cement squeezes needed. The average cost to abandon the single zone Belly River recomplete wells was $45.6k. Remedial repairs for porous isolation were completed on nine wells for an average cost of $91.5k. Two well abandonments included remedial repairs to repair SCVF issues for an average well abandonment cost of $116k.

One Electronic Submersible Pump (ESP) well abandonment was completed for $76k (compared to the prior year ESP well abandonment of $218k in Bigoray). ESP's have a downhole configuration that requires specialized equipment and more time to pull the pump to surface. They handle larger volumes of fluid and these Bigoray wells have been prone to wax issues. Two cased wells were pressure tested and surface abandoned for an average of $11.3k.

1 B) Alliance 040-12W4 (17 wells abandoned for an average of $39.6k)

The sour Tallgrass wells in the Alliance area produced oil primarily from the Ellerslie, Ostracod and/or Glauconite (up to 4% H_2S) Formations. Seven of the 17 wells had downhole wellbore issues such as casing holes, tubing holes and/or sanded in and parted rods with tubing.

The well abandonments of disposal wells were complicated with a tar like substance entrained in the tubing and casing. This substance was viscous enough to be further swabbed into the well with minor tubing movement down hole yet it formed a hard barrier when the tubing was moved up-hole. Using experience gained from abandoning two Tallgrass Alliance disposal wells last year, disposal well costs were lowered to an average $78.4k compared to $167k in prior year.

Tallgrass Energy Corp. C0/15-29-038-07W4/0

1 C) Bruce Lake 038-7W4 (9 wells abandoned for an average of $32.3k)

The Bruce Lake wells were up to 1.5% sour oil wells, with many producing from Cummings perforations with second sets of perforations completed in the Ellerslie, Dina, Lloydminster or Viking Formations. Three wells had problems including casing holes and obstructed tubing. Well abandonments were completed for 70% of AER Directive 11 costs. Four single zone abandonment operations were completed for an average of $19.3k, and five dual zone abandonments were completed for an average of $42.7k.

Below is a summary showing average costs of the three Tallgrass Energy Corporation Projects split by type of operation.

Tallgrass Energy Corp	Count	Avg Cost ($k)
Bigoray Area		
Single Zone Abandonment	6	45.6
GW Protection and Abandonment	9	91.5
Surface Casing Vent Flow Repair	2	116.0
ESP Well Abandonment	1	75.8
Pressure Test and Surface Abandon	2	11.3
Area Total	20	71.4
Alliance Area		
Single Zone Abandonment	10	35.6
Dual Zone Abandonment	3	46.4
Injection Well Abandonment	2	78.4
Pressure Test and Surface Abandon	2	10.2
Area Total	17	39.6
Bruce Lake Area		
Single Zone Abandonment	4	19.3
Dual Zone Abandonment	5	42.7
Area Total	9	32.3
Total	46	52.0

2// Cougar Oil and Gas Canada Inc. Project
Red Earth area (089-03W5) Abandonment Project $1.68M
(18 wells abandoned at an average of $93.3k)

18 wells licensed to Cougar Oil and Gas Inc. were abandoned in the challenging Red Earth area. These wells were drilled in the 1990's through a corrosive loss circulation zone which led to poor primary cementing of the wellbores. These wells have a history of tubing and rod changes with wellbores that were prone to casing failures. Some wells had liners installed to isolate the failures, which in turn failed. 83% of the abandonments completed resulted in remedial cement repairs due to damaged casing and/or low cement tops. Primarily completed in the Keg River these wells are in the Peace River Oil Sands area but after a geological review they were identified to fall outside of any producible bitumen deposits. This meant the requirement to protect the inside of casing from

future steam recovery schemes across any non-completed oilsands did not apply. The five single zone well abandonments were completed for an average of $56.6k, eight dual zone well abandonments were completed for an average of $97.5k, three triple zone well abandonments were completed for an average of $95.7k, and four groundwater and porous isolation abandonments were completed for an average of $130.3k.

Cougar Oil and Gas Canada Inc. 00/12-20-089-03W5/0

3// *Winter Petroleum Ltd.*
Wells Near Rainbow Lake area (110-03W6) Abandonment Project $1.50M
(59 wells abandoned at an average of $25.5k)

This group of shallow gas wells averaged a depth of 340 m deep, and primarily had coil tubing velocity strings in place. 57 of the wells abandoned were single zone abandonments and two of the wells were dual zone abandonments. The majority of these wells were winter access in muskeg areas and with overgrown leases and required winter road construction. By working in an area project, average well abandonment costs were completed for 56% of AER Directive 11 costs. Note that this was not without challenges as 17% of the operations encountered well issues such as unreported well obstructions, unreported tubing, shallow casing holes, improperly aligned wellheads, rusted wellhead bolts, or coil hangers stuck in place due to salt formation. See below for summary of area project average costs.

Winter Petroleum Ltd.		Count	Avg Cost ($k)
Single Zone Abandonment		57	24.3
Dual Zone Abandonment		2	59.6
	Total	59	25.5

4// Stealth Ventures Inc.
Wells in Vermillion area (048-08W4) Abandonment Project $852k
(62 wells abandoned at an average cost of $13.7k)

This 62 well area project was located in east central Alberta near the town of Vermillion. The wells predominantly had perforations in the Colorado at 535 mKB depth with up to three additional sets of perforations in the Second White Specks, Base of Fish Scales and/or Viking Formations. Both coil and wireline were used to set the abandonment bridge plugs. Multiple perforations were abandoned with a combination of bridge plugs and cement plugs run with coil. Bridge plugs were initially conveyed on wireline. However, it was found that formation sand was inflowing and obstructing the setting of the plugs, so coil was used to set the bridge plugs on the balance of the wells. Two of the wells were found with unreported bridge plugs in the wellbores. These wells were winter access due to the soft ground conditions and farming operations. The winter weather was a significant challenge, swinging between too cold to work safely and so warm that crews had to work at night to when there was still frost in the ground. Well abandonments were completed for 54% of AER Directive 11 costs. The Stealth summary is shown below:

Stealth Ventures Inc.		Count	Avg Cost ($k)
Single Zone Abandonment		2	12.6
Dual Zone Abandonment		25	11.6
Triple Zone Abandonment		30	13.9
Quad Zone Abandonment		5	23.6
	Total	62	13.7

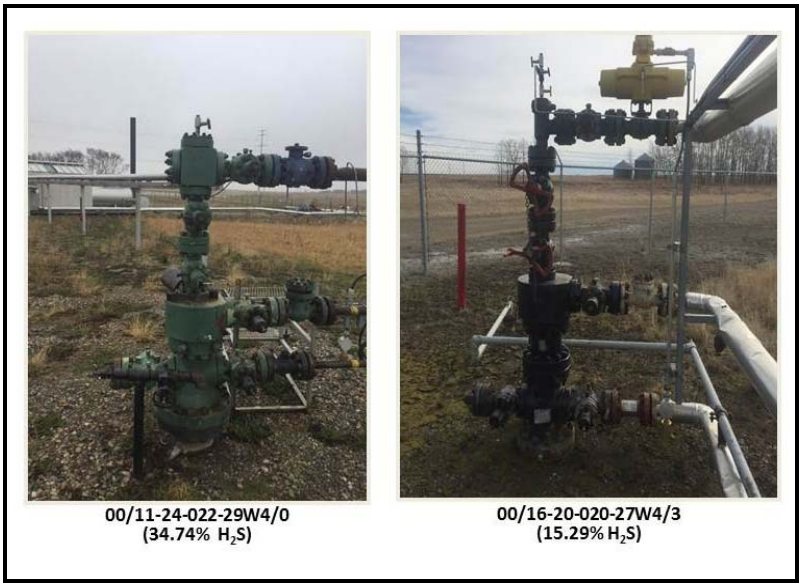
5// Middle East in Stettler area (036-16W4) Abandonment Project $466k
(11 wells abandoned for an average of $42.1k, one cut and cap completed for $3k)

The wells in this relatively spread out area (up to 152 km), were licensed to various licensees. There were efficiency challenges because the wells were scattered, there were soft ground conditions for access and a very late crop harvest (many sites were still not harvested on December 24). Two of the wells had retrievable bridge plugs which had been left in the wellbore for over a decade, so the plugs were degraded, parted and had to be fished out in pieces. Four single zone abandonments were completed for an average of $40.8k. Five dual zone abandonments were completed for an average of $35.2k and two triple zone abandonments were completed for an average of $62.1k.

Fairwest Energy Corp. 00/07-24-032-10W4/0

6// South in Medicine Hat area (013-02W4) Abandonment Project $217k
(16 wells abandoned for an average of $13.6k)

A group of 16 wells representing multiple defunct licensees were abandoned as a project. These shallow gas wells, on average 564 mKB deep, were completed for shallow gas production from the Milk River and/or Medicine Hat Formations. 75% of the wells were found to contain syphon strings that were unrecorded in completion records. Two of the wells had casing integrity issues. 12 single zone abandonments were completed for an average of $12.9k, three dual zone abandonments were completed for an average of $18.7k. Well abandonments for the project were completed for 44% of AER Directive 11 costs.



Lexin Resources Ltd. Orphan Wells for Suspension

Lexin Resources Ltd. Orphans ($433k)

In February 2017 the AER designated 1088 wells, 72 facilities, and 1165 pipeline segments licensed to Lexin Resources Ltd. as orphans for the purposes of suspension. The OWA was also requested by the AER to provide care and safekeeping of the properties. The Lexin Resources orphan wells, facilities and pipelines were assessed based on available well information and prioritized through a risk ranking process. To care for the Lexin properties, which included high sour gas wells in critical proximity to urban areas, the OWA retained contract field personnel to make regular visits and care for the wells, pipelines and facilities, and to respond to field emergencies.

When the Lexin Resources properties were turned over to the OWA, the production had been shut in and the power deactivated. The OWA coordinated the reactivation of electrical power for the sour wellsites, as well as for the cathodic protection on the pipelines, and the H_2S alarm systems. Starting in April, landowners were notified that the OWA was caring for the properties and a program to visit the Lexin Resources properties and inspect the status of the equipment and leases was put in place. As of the end of March 2017, the power and automation for the H_2S alarm systems were restored on 51 sites. Fluids that remained in ten tanks on the Lexin Resources properties were drained and two sites with spill releases were addressed.

A total of 75 sites had been visited, the well valve handles were chained and padlocked, and OWA signs which included the 24 hour emergency phone number was installed at the wellsites. Equipment repairs were completed as required. Lexin Resources pipelines were being located upon requests through Alberta One-Call. The high risk sour gas wellsites were being visited regularly. The expenditure on the Lexin Resources properties for equipment maintenance, field and office operations, and legal costs was $433k.

Cougar Oil and Gas Canada Inc. Pipeline at 01-19-089-03W5

Pipeline Abandonment ($2,283k)

In 2016/17, pipeline abandonment expenditures were $2,283k (19% increase compared to prior year $1,913k). There was an increase in pipeline operations because some new orphan pipelines required priority attention because of higher risks identified from sour gas or sour oil service or pressures. A risk ranking process was developed and applied to all new orphan pipelines so that the high priority pipelines could be identified and secured prior to routine pipeline abandonments.

As of March 31, 2017 there were 1,721 pipeline segments in the orphan inventory for abandonment (compared to 856 pipeline segments in orphan inventory in prior year).

The main increase in operation activity was to secure pipelines: 237 pipeline segments (68 licensed pipelines) were depressurized and 76 different pipeline segments (33 pipeline licenses) were depressurized and pigged. In addition, 130 pipeline segments (51 licensed pipelines) were abandoned including removing risers. A total of 445 pipeline segments were addressed by operations in 2016/17.

Pipelines were selected for abandonment based on priorities that considered safety and environmental risk for leaks and stakeholder concerns. Pipeline operations were grouped and work assigned in area projects to be more efficient. These operations were challenging for a variety of reasons such as the condition of the lines left by the defunct operator, the lack of access to certain tie-in points due to landowner concerns (compensation requests), and the need to work with other operators that were tied into orphan pipeline segments.

Average pipeline abandonment costs were higher compared to prior year due to the large number of complications encountered during operations. The following is a description of selected pipeline abandonment projects conducted in 2016/17.

Tallgrass Energy – Alliance Area - 40-12W4 Area ($572k)

A total of 41 pipeline segments were abandoned for an average of $14.0k per segment. This included the abandonment operations of both the sour (H_2S) and non-sour (sweet) pipeline segments at the same time for area project savings. The expenditures to abandon the sour Tallgrass pipeline segments were higher than average because of challenges such as finding some pipelines plugged with heavy wax and some pipelines parted underground. At times a hot oiler was needed to heat and pump wax dispersant chemical down the line to move the emulsion plugs and extra pig runs were required to clean the lines which added to abandonment costs. Additional complications also came from other operators in the field that operated pipeline segments which tied into some of the Tallgrass licensed pipelines.

Cougar Oil and Gas – Red Earth Area - 089-03W5 Area ($187k)

A total of 17 pipeline segments were abandoned for an average of $11k per segment. These lines were found in a significantly different condition in field from their AER licensed status on record. Several unlicensed pipeline segments were found and many other pipeline segments shown on AER records as operating were found to have never been constructed.

Middle East - 040-04W4 Pipeline Project ($335k)

A total of 16 pipeline segments were abandoned; four tied in lines for an average of $30k per segment and 12 blind end lines were abandoned for $10.7k per segment. 64 pipeline segments were purged and/or depressurized for an average of $1.2k per segment. Abandonment operations of both sour (H_2S) and non-sour (sweet) pipeline segments were conducted at the same time for area project savings. The four tie-in abandonments were pipeline tie-ins to operating third party lines that required cut out and spool replacement for abandonment which increased the average cost. Ties-ins in this area were unusually low in the ground resulting in larger and wider excavations.

Winter Petroleum – Rainbow Lake Area - 110-04W6 Area ($409k)

In this winter access area, a total of 42 pipeline segments were abandoned for an average of $9.4k per segment and one pipeline was depressurized for $12.6k. Access costs and pipeline lengths contributed to the increase in costs. For example, one pipeline segment that was abandoned was 28 km long. Two flowlines were also identified and abandoned as part of the project.

Mayerthorpe - 053-13W5 Pipeline Project ($38k)

In this small area project, five pipeline segments were abandoned for an average of $5.8k per segment and ten pipeline segments were purged and/or depressurized for an average of $0.5k.

Peace River Area - 083-06W4 Pipeline Project ($308k)

A total of 127 pipeline segments were purged and/or depressurized for an average of $2.4k per segment in this winter access area located north of Peace River. This included the depressurizing of both the sour (H_2S) and non-sour (sweet) pipeline segments at the same time for project savings on mobilization.

Fairwest Energy Corporation
Pipeline at 11-12-037-10W4

Red Deer Area - 038-25W4 Pipeline Project ($51k)

A total of 26 pipeline segments were purged and/or depressurized for an average of $2.0k per segment in central Alberta near Red Deer. This included the depressurizing of both the sour (H_2S) and non-sour (sweet) pipeline segments at the same time for project savings.

Stealth Ventures - Vermilion Area - 048-06W4 Area ($26.9k)

In this field, 51 pipelines were depressurized for safekeeping for a low average cost of $0.5k per segment. Pipelines were bled down to existing completion equipment using personnel present for well abandonment operations on Stealth Venture wellsites. This helped to reduce the costs of depressurizing the pipelines.

Carstairs Area - 030-01W5 Pipeline Project ($37k)

In this project near Carstairs, 25 pipeline segments were depressurized for an average of $0.3k per segment. Savings were achieved by utilizing equipment and manpower that was present to abandon surface equipment in the area. One pipeline segment was abandoned for a higher than average expenditure of $30k because it was obstructed requiring seven pig runs and the final operation required the removal of 100 m of pipeline on a well lease that was congested with multiple lines.

Cougar Oil and Gas Canada Inc. FA 02-08-089-04W5

Facility Decommissioning ($2,158k)

Facility decommissioning expenditures include expenditures for the complete decommissioning of licensed facilities as well as expenditures on winterizing, draining, cleaning and securing facilities. These expenditures also include the removal of surface equipment from well sites. Two licensed facilities were decommissioned completely with the sites prepared for reclamation activities and three licensed facilities had other decommissioning operation for a total of $138k and 62 licensed facilities were winterized for safekeeping for $714k. Surface equipment on ten well sites was winterized for $79.9k total.

The amount of surface equipment found on orphan well sites is increasing. Surface equipment was removed on 239 well sites at a cost of $1.01M, for an average of $4.2k/site. Surface equipment removal costs varied between a nominal value (when completed as part of a large area project) to $45.7k (when more equipment was left behind in a more isolated location). All of the area project surface equipment removal was done concurrently with pipeline or well abandonments or both to share equipment and reduce costs by improving efficiencies of services.

A few highlights of the facility operations are listed below.

Tallgrass Energy Corp – East Central Alberta Surface Equipment Removal ($312.4k)

Surface equipment associated with well sites was removed from 71 sites licensed to Tallgrass for an average cost of $4.4k. Equipment removed included pumpjacks, separators, cribbing, power cables, power boxes and pilings, tanks and separators.

Winter Petroleum Ltd – Rainbow Lake-111-04W6 Surface Equipment Removal ($170.8k)

Surface equipment associated with well sites in this remote winter access field was removed from 61 sites for an average cost of $2.8k. Equipment removed was primarily pilings, flowlines and some separator packages with pop tanks.

Stealth Ventures Inc – Vermillion-048-08W4 Surface Equipment Removal ($62k)

The minor surface equipment of a metering shack and fencing found on these 62 winter access well sites was removed for an average cost of $1.0k.

East Central Alberta-035-04W4 Surface Equipment Removal and Facility Securement ($239k)

A total of $239k was spent removing surface equipment associated with fifteen well sites for an average cost of $11.3k. Six licensed facilities were winterized for safekeeping at an average cost of $14.0k.

Red Earth Alberta-089-03W5 Surface Equipment Removal and Licensed Facility Abandonment ($348k)

Surface and facility equipment was removed on these remote winter access sites licensed to Cougar Oil and Gas Canada Inc and Stout Energy Inc. in this area. A total of $348k was spent removing surface equipment on 22 well sites for an average cost of $11.2k. Facility equipment was removed from three licensed facilities for a total cost of $101k, with two of the licensed facilities being ready for reclamation. Equipment removed including a number of tanks, pump jacks, flare stacks, knockout drums, Master Control Centers, facility office buildings, skid treaters, flow lines, solar panels, and fuel tanks.

Canada West Resources Inc. 02/08-21-031-18W4/3
Removing Gravel During Reclamation

Site Reclamation ($10,213k)

The total expenditure on Site Reclamation this year was $10,213k (slight increase from $9,857k the prior year). A total of 783 orphan sites had reclamation activities completed on during the year, compared to 540 sites that had reclamation activities completed on last year. There were 253 new orphan sites were added to the Reclamation inventory this year (compared to 128 new orphan sites the prior year). The AER designated 131 new orphan sites for reclamation this year and 122 additional new orphan sites were added from wells and facilities that were abandoned by the OWA.

Note that there is a distinction between orphan sites that require reclamation and orphan wells that require abandonment. These two inventories are tracked and reported separately. See Page 12 for more information about the orphan well inventory.

Site Reclamation Closure Count

The Site Reclamation Closure Count, which is the count of orphan sites that have obtained closure, is shown in Figure 4 and Table 4. To date, closure has been obtained on 695 out of a total of 1319 (53%)

orphan sites. The count of orphan sites is based on the total count of 603 sites that have received reclamation certificates (*Sites RC Received*) plus 92 sites that have received some other type of closure (*Sites Handled*) minus 159 sites that received reclamation closure this year. A summary of the Site Reclamation Closure Count is presented in Figure 4 and Table 4 below.

The process to prepare a site for certification can take several years. After remediation and reclamation is completed on a site, it can take up to five years or more for the site to re-vegetate and be ready for the detailed site assessment required for a Reclamation Certificate application. The actual time required to obtain a Reclamation Certificate after remediation closure depends on the land use, type of vegetation and factors that affect growing conditions such as amount of rainfall.

In 2016/17, 150 orphan sites received Reclamation Certificates (compared to nine in prior year). The increase in Reclamation Certificates received is due to the AER's new online Reclamation Certification System, OneStop. Under the new process, operators enter their application information directly into the online system. The system reviews the information and if complete, either issues a reclamation certificate after the mandatory 30 day public notice of application period has ended, or flags the application for further review. AER resources were put into development of the new system in 2015 and 2016. For this reason, a backlog of applications developed, including 120 Reclamation Certificate applications submitted by the OWA. The AER's new OneStop Reclamation Certification System went live on June 16, 2016, and the AER was able to quickly clear their backlog of applications. On June 18, 2016, 89 reclamation certificates were received by the OWA.

Nine orphan sites were counted under Sites Handled this year. Three sites were taken over by other operators (Desmarais Energy Corporation 00/07-30-058-04W5/0, Neo Exploration 00/07-36-029-01W5/0, and Chinook Management Ltd. 00/06-13-040-16W4/0). Three Rio Petro Ltd. sites were found to have had Reclamation Certificates issued prior to the sites being turned over by the AER. The Rec-Exempt site Marwayne Oils Limited 00/05-16-048-05W4/0 and one Condor Resources water well were counted as Handled. A historical release from a Big Valley Energy Corporation pipeline in 05-18-048-20W4 was also counted as Handled after it was determined that remediation was not required.

Figure 4 Site Reclamation Closure Count

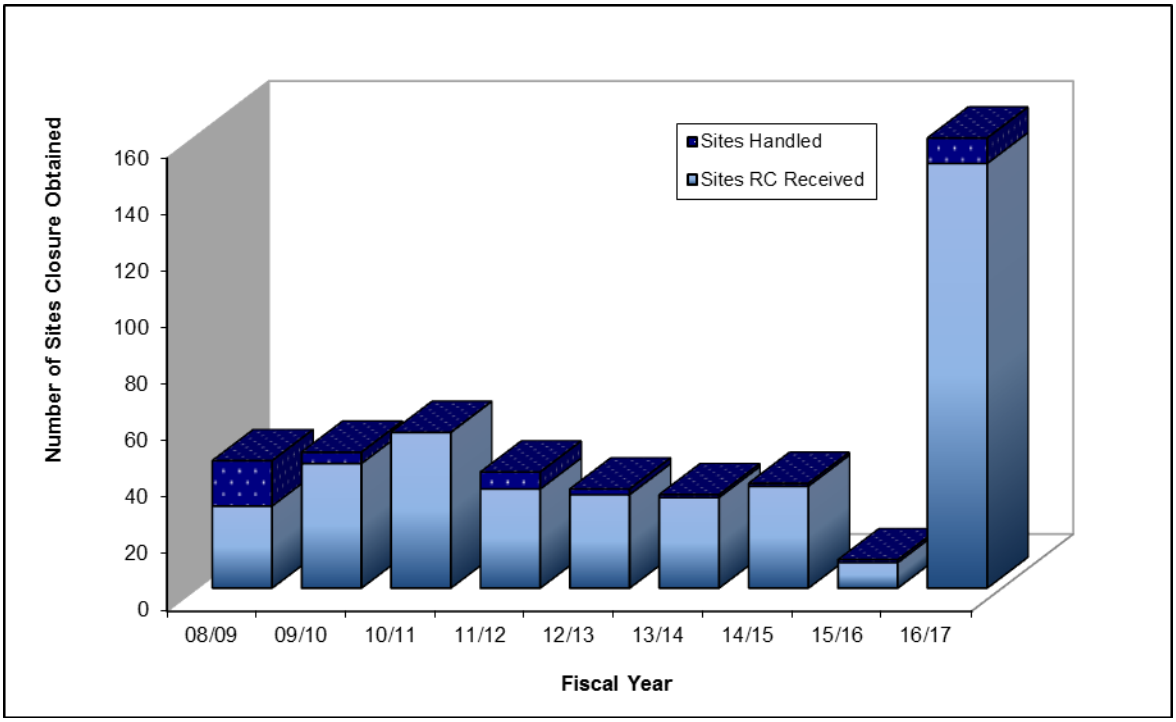


Table 4 Site Reclamation Closure Count

Fiscal Year (Apr 1 to Mar 31)	Prior Years	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	Total
Sites RC Received	180	29	44	55	35	33	32	36	9	150	603
Sites Handled	52	16	4	0	6	2	1	1	1	9	92
Site Reclamation Closure Count	**232**	**45**	**48**	**55**	**41**	**35**	**33**	**37**	**10**	**159**	**695**

The terms used in Figure 4 and Table 4 are described below.

Sites RC Received

Sites counted in this category have received a Reclamation Certificate from the AER, or previously from AEP or one of its predecessor departments. Sites can either be well sites or facility sites. Note that the responsibility for issuing Reclamation Certificates for upstream oil and gas sites for both private and public lands was transferred from AEP to the AER on March 31, 2014. This category also includes sites on federal reserve land that have received federal environmental closure in the form of a signed Memorandums of Surrender from Indian Oil and Gas Canada (IOGC).

The issuing of a Reclamation Certificate or Memorandum of Surrender indicates that the site reclamation satisfies applicable provincial or federal regulatory standards and no further action is required. Note that when one location receives a Reclamation Certificate and there are two overlapping leases, two counts are taken for this category, one for each lease. For example, when a Reclamation Certificate is received on a facility footprint that completely overlaps a well site, two counts are taken for the one Reclamation Certificate.

Sites Handled

Sites counted in this category have received some type of closure with no further action required. This includes sites associated with wells that were abandoned prior to reclamation legislation being enacted, known as Reclamation Exempt (Rec Exempt) wells. These are wells that either

- are on private land (White Area) of the province and were abandoned prior to June 1, 1963, or
- are on Crown land (Green Area) of the province and were abandoned prior to August 15, 1978.

Rec Exempt well sites are not considered "specified land" by AEP and therefore do not require a Reclamation Certificate. For Rec Exempt sites, any surface reclamation issues that impede the current land use are addressed. For closure of Rec Exempt sites, the OWA documents any work done and notifies the AER with a letter for file closure.

This category also counts sites that have a different closure mechanism because they do not require Reclamation Certificates for closure, for example pipeline spills. Also counted in this category are sites that are taken over by active oil and gas companies by overlapping an orphan site with a new surface lease.

Count of Reclamation Certificate Applications Submitted

The number of orphan sites that are ready for closure is reflected in the count of how many sites have Reclamation Certificate applications submitted in the year. See below for Figure 5 and Table 5 Count of Reclamation Certificate Applications Submitted.

Atotal of 62 applications were submitted for closure this year (compared to 80 applications the prior year, which reflected the increased amount of remediation completed in 2009 and 2010 with the

increased funding). All 62 of the applications were submitted to the AER for Reclamation Certificates (compared to 78 the prior year). There were no Memorandums of Surrender submitted to IOGC this year (compared to two in prior year). Five of the 62 sites were turned over for reclamation in 2016/17 and were applied on in the same year. There were 32 Reclamation Certificate applications awaiting review by the AER as of March 31, 2017.

Figure 5 Count of Reclamation Certificate Applications Submitted

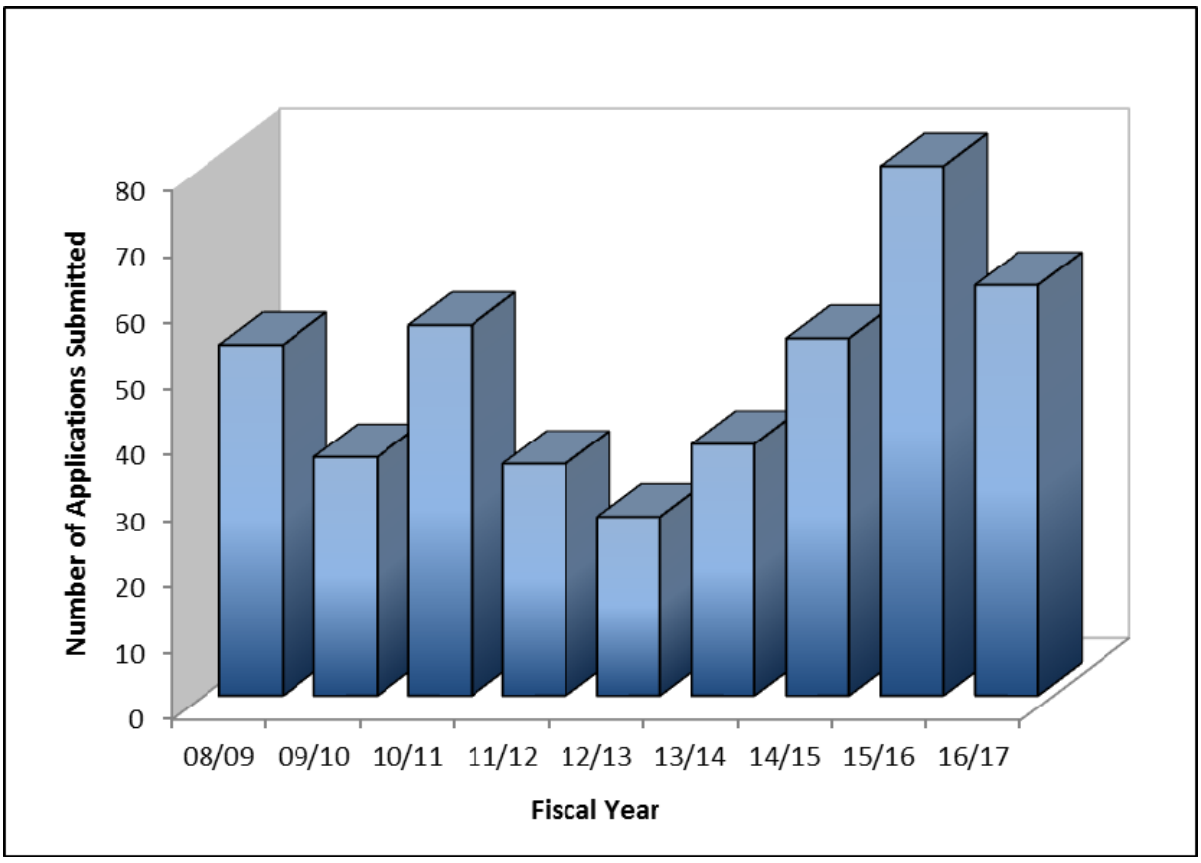


Table 5 Count of Reclamation Certificate Applications Submitted

Fiscal Year (Apr 1 to Mar 31)	Prior Years	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	Total
RC Applications Submitted	185	53	36	56	35	27	38	54	80	62	626

Site Reclamation Expenditures by Categories

To better describe Site Reclamation expenditures in the year, each orphan site was assigned one of seven categories according to the largest expenditure on each site in the year. For example, if an orphan site was remediated and reclaimed in the same year and more money was spent on remediation than on reclamation, the site would be assigned to the Remediation category. Similarly, if more money was spent on reclamation than on remediation, the site would be assigned to the Major or Minor Reclamation category depending on the type of activity that was conducted.

Site Reclamation Categories are described below with the activities typically occurring in the same order as listed:

Startup: Sites in this category typically had reclamation work conducted for the very first time in the year either because they were received as new orphans for reclamation or because they had been recently abandoned by the OWA and have been designated as orphan for reclamation and moved into the reclamation inventory. Work included conducting a Phase 1 Environmental Site Assessment (ESA) which involves historical record and aerial photograph review, initial site visits and landowner interviews. Work also included posting OWA signs on new orphan sites, and initial weed control.

Phase 2 ESA: Sites in this category had Phase 2 ESAs conducted which are intrusive investigations conducted to characterize and delineate contaminants in the soil and groundwater. Phase 2 ESA related work included, but was not limited to, conducting electromagnetic conductivity surveys (or EM surveys, which measure soil conductivity that can be an indicator of salinity impacts in the soil), surveying, drilling, installing groundwater monitoring wells, sampling soil and groundwater, lab analyses, and report preparation. This category includes AEP Tier 2 approach assessment work, which uses highly detailed site investigations and contaminant transport modeling to develop site-specific remediation guidelines.

Remediation: Sites in this category had remediation conducted such as dealing with impacts associated with flare pits, drilling waste sumps, underground storage tanks, well center, spills and other pits. Work may have included hauling impacted material to a landfill, ex-situ onsite soil treatment, or the operation and maintenance of in-situ soil and groundwater treatment systems. Work also typically included confirmatory sampling of soil or groundwater and report preparation.

Major Reclamation: Sites in this category had substantial reclamation work conducted such as lease and access road stripping, soil re-distribution or major re-contouring to blend the site back into the surrounding landscape, as well as topsoil replacement.

Minor Reclamation: Sites in this category had limited reclamation work conducted such as paratilling for soil de-compaction, rock picking, removal of debris, or repairing minor settling. Activities may also have included the addition of small amounts of topsoil, seeding, planting trees, or fencing.

Monitor: Sites in this category had monitoring type work conducted. Work included monitoring vegetation health and growth, weed control, mowing, and minor re-seeding. Sites with groundwater monitoring are included in this category when no other Phase 2 ESA or remediation work is conducted.

Closure: Sites in this category had work conducted related to the process of applying for a Reclamation Certificate. Work included conducting soil, vegetation and landscape detailed site assessments (DSAs), landowner consultation, preparing and submitting application documents, and responding to application inquiries from the AER. Work to obtain 100% overlapping agreements with third-party operators or closure on Rec Exempt sites was also included in this category.

Count of Sites by Category

The 783 orphan sites divided by category are shown in Figure 6 and Table 6 below. Note that 40% of the sites are newer orphans and are in the Startup and Phase 2 ESA Categories while 49% of the sites are in the Monitor or Closure category which indicates that the sites are either awaiting remediation or are close to reclamation closure.

Figure 6 Count of Sites by Category

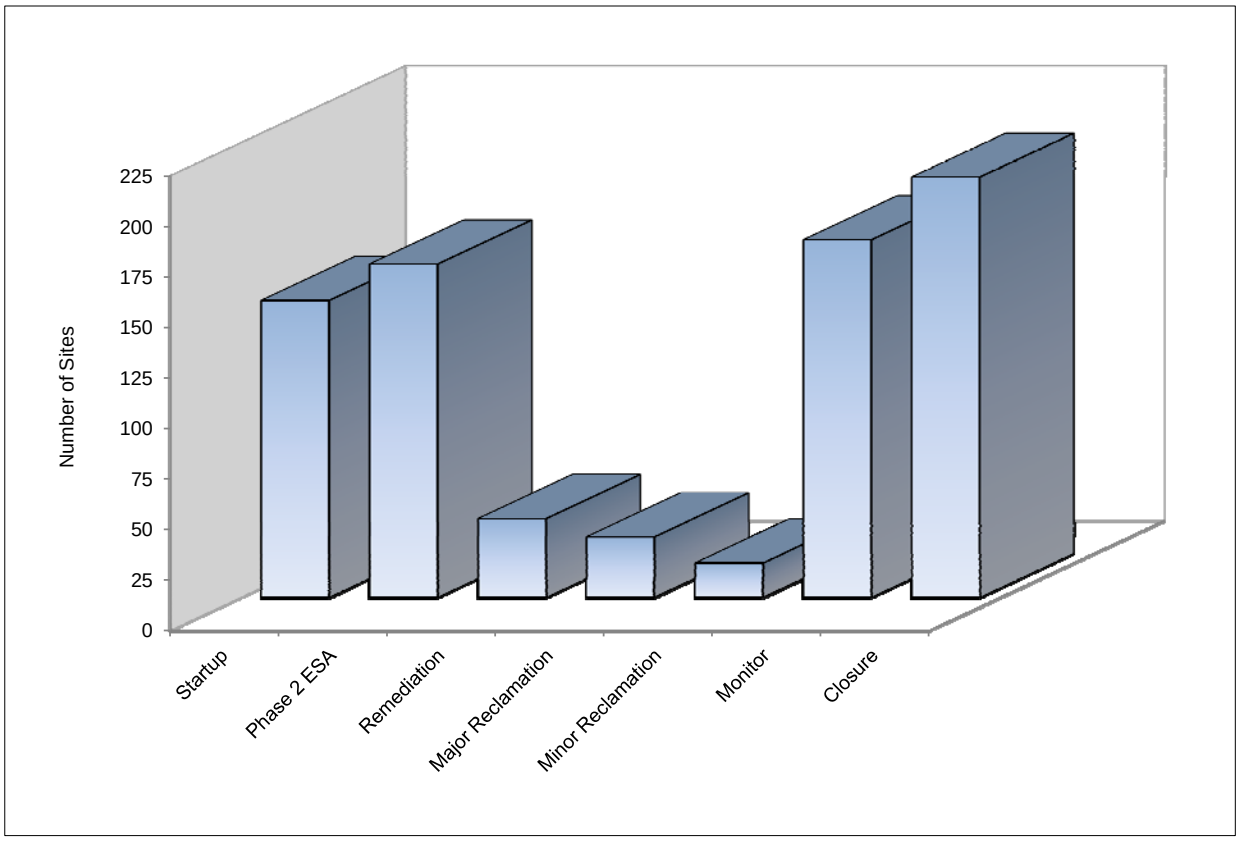


Table 6 Count of Sites by Category

	Site Reclamation Category							
Activity	Startup	Phase 2 ESA	Remediation	Major Reclamation	Minor Reclamation	Monitor	Closure	**Total**
Number of Sites	147	165	39	30	17	177	208	783
Percentage of Sites	19%	21%	5%	4%	2%	23%	27%	100%

Site Reclamation Costs by Category

2016/17 Site Reclamation Costs by Category are shown in Figure 7 and Table 7, and the 2016/17 Average Site Reclamation Costs by Category are shown in Figure 8 and Table 8.

Note that the average cost per site given in Table 8 is affected by the distribution and type of work conducted on all the sites that are included in the category. For example, in the Phase 2 ESA and Remediation categories, sites with small amounts of work done or with lagging reporting expenditures for work done in the prior year were included; this inclusion lowers the average cost per site. Similarly, one or two extensive Phase 2 ESA investigations or very large Remediation projects will skew the average higher.

Division of Costs by Reclamation and Remediation

The Site Reclamation costs are further divided into reclamation and remediation. Reclamation is the term used in Alberta to describe activities that return the land to its equivalent land use capability. Reclamation activities can include subsoil replacement, contouring, de-compaction, re-establishment of drainage, topsoil replacement and re-vegetation of disturbed land. Activities also include weed control, vegetation monitoring, detailed site assessment of the soils and vegetation, and the preparation of applications for Reclamation Certificates when reclamation has been completed.

Remediation or decontamination is the term used to describe activities that include the investigation and removal of contaminant impacts to soil and groundwater as per current AEP regulatory guidelines. The breakdown of expenditures between reclamation and remediation is shown in the following two tables and figures. This year, Site Reclamation expenditures were 25% on reclamation and 75% on remediation (compared to 32% and 68% in the prior year).

Figure 7 – 2016/17 Site Reclamation Costs By Category

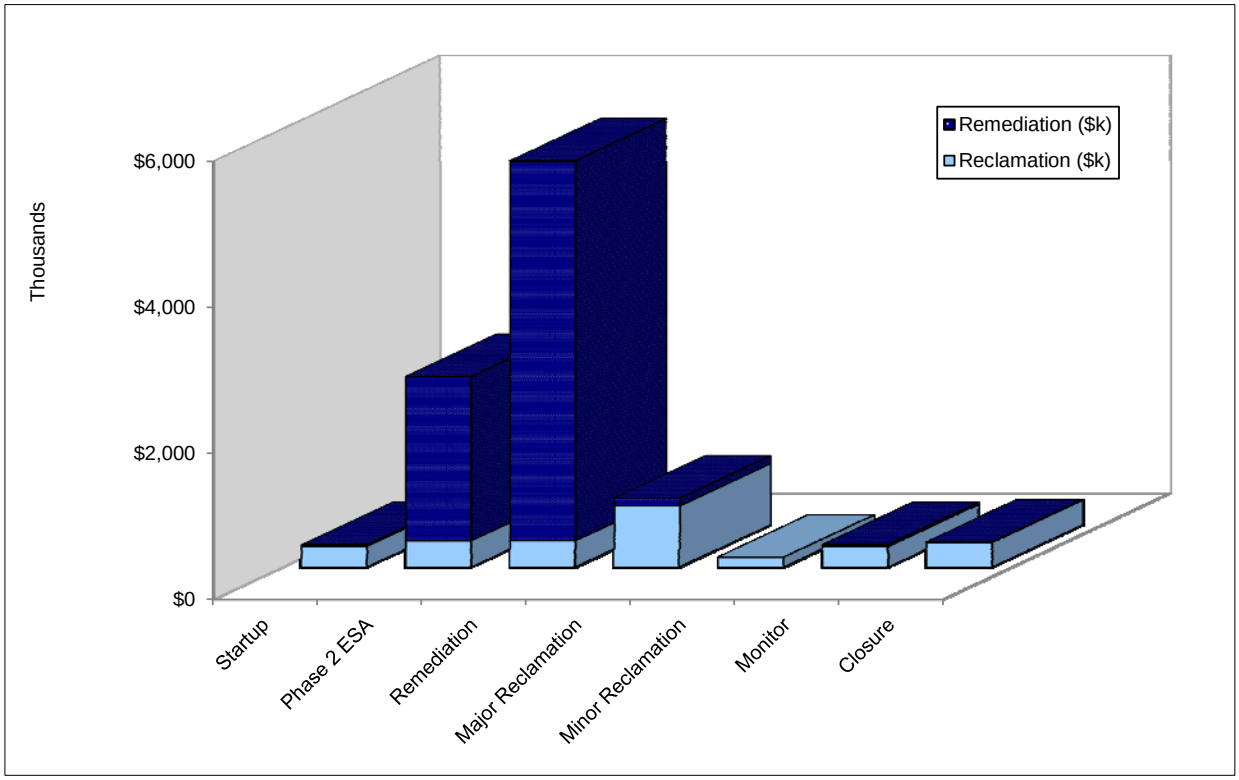


Table 7 – 2016/17 Site Reclamation Costs By Category

	Site Reclamation Category							
Activity	Startup	Phase 2 ESA	Remediation	Major Reclamation	Minor Reclamation	Monitor	Closure	**Total**
Reclamation ($)	284,255	362,715	363,737	839,327	134,815	278,267	337,114	2,600,230
Remediation ($)	18,778	2,250,343	5,202,381	105,716	0	28,164	7,700	7,613,082
Total ($)	**303,033**	**2,613,058**	**5,566,118**	**945,043**	**134,815**	**306,431**	**344,814**	**10,213,312**
Number of Sites	147	165	39	30	17	177	208	783

Figure 8 – 2016/17 Average Site Reclamation Costs By Category

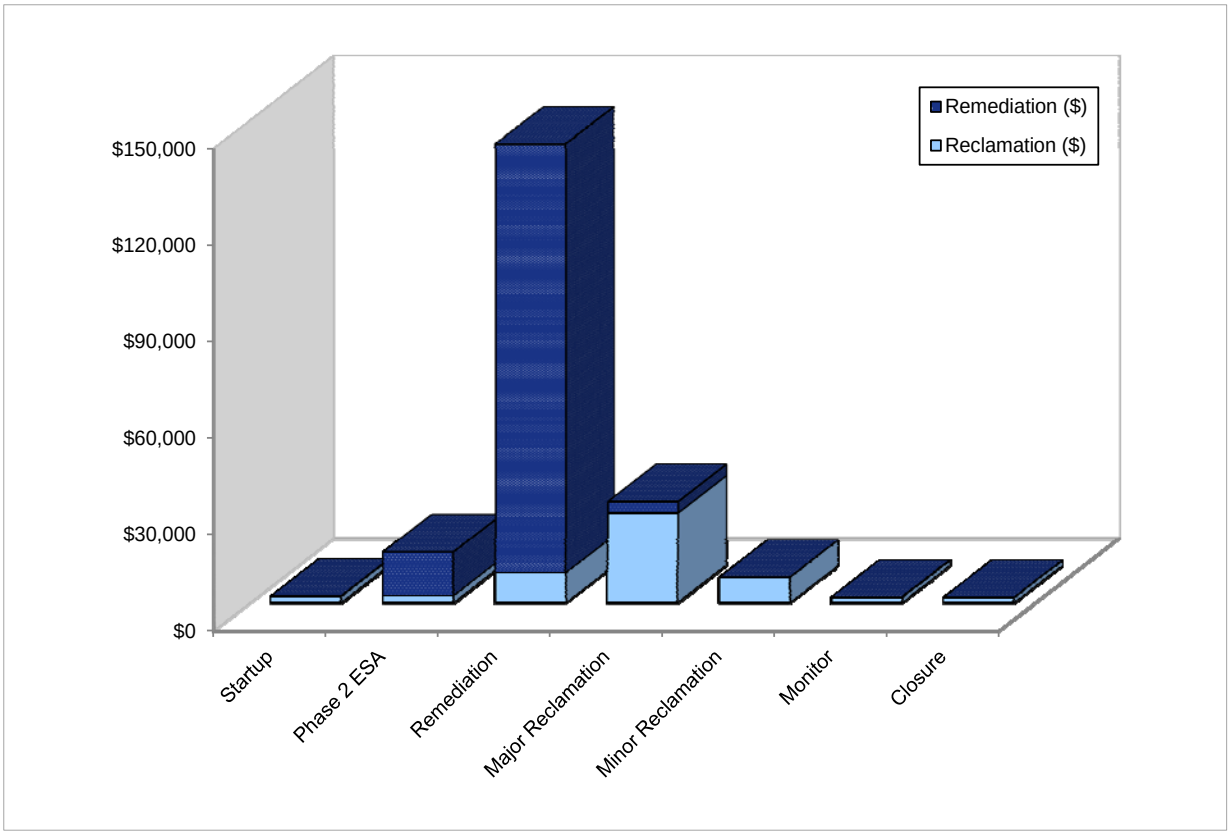


Table 8 – 2016/17 Average Site Reclamation Costs By Category

	Site Reclamation Category							
Activity	Startup	Phase 2 ESA	Remediation	Major Reclamation	Minor Reclamation	Monitor	Closure	**Total**
Reclamation ($)	1,934	2,198	9,327	27,978	7,930	1,572	1,621	3,321
Remediation ($)	128	13,638	133,394	3,524	0	159	37	9,723
Total ($)	**2,061**	**15,837**	**142,721**	**31,501**	**7,930**	**1,731**	**1,658**	**13,044**
Number of Sites	147	165	39	30	17	177	208	783

Big Valley Energy Corp. FA/02-07-048-20W4
Reclaiming Access Road

Comments by Site Reclamation Category

The following are comments on Site Reclamation activities by Category for the year:

Startup Category

One hundred and forty-seven sites are counted in the Startup category (compared to 83 sites the prior year), which reflects the increased number of sites turned over for reclamation this year and the increased number of wells and facilities abandoned the prior year. Startup activities included landowner contact, initial site inspections, weed control, Phase 1 ESAs, and wildlife surveys on Crown native prairie land.

Startup category expenditures totaled $303k this year on 147 sites compared to $288k on 83 sites in 2015/16 (and $90k on 43 sites in 2014/15). From Table 8, the average expenditure per site was $2.1k compared to an average of $3.5k in the prior year. Many new orphan sites were grouped together in areas which provided cost efficiencies in the purchase of aerial photographs and in mobilization/ demobilization charges for Phase I ESA site visits and site inspections. Cost savings were also achieved

for Phase 1 ESAs through the bidding out of the work at the beginning of the year through a Request for Proposal process. The average cost for a Phase 1 ESA this year was $1.5k in southern Alberta, $2.1k in central Alberta, and $2.5k in northern Alberta.

Out of the 147 sites counted in Startup category, 112 were new orphan sites added to the inventory this year. Note that 141 other new orphan sites were moved forward past the Startup category because additional expenditures were made that moved them into other categories such as Phase 2 ESA.

Phase 2 ESA Category

Phase 2 ESA activities included conducting EM surveys, drilling boreholes for soil sampling, digging test pits, installing groundwater monitoring wells, collecting soil and groundwater samples, and laboratory analyses.

Phase 2 ESA category expenditures totaled $2,613k on 165 sites (compared to $2,015k on 80 sites the prior year). Focusing on cost efficiencies this year lowered the overall average Phase 2 ESA category cost to $16k per site (compared to $25k per site in the prior year). Note that total expenditures in this category do include expenditures on activities other than Phase 2 ESA work such as EM surveys and weed control.

Initial Phase 2 ESAs were conducted on 137 of the 165 sites counted in this category with an average cost of $13k per site including EM surveys and excluding reclamation expenditures (compared to $24k per site the prior year). The average cost for an initial Phase 2 ESA decreased this year due to the number of sites which required only drilling waste disposal area assessments and the number of sites that were located in close proximity to each other which reduced mobilization/demobilization costs. Cost savings were also achieved through the bidding process and the reduced number of EM surveys completed.

Initial Phase 2 ESAs were completed on 70 sites in the south part of the province with individual site costs ranging from a low of $4.3k for a well center and facility area assessment at a Fairwest Energy Corporation site near Youngstown to $36k for an assessment of two well centers, two drilling waste

disposal areas including a remote sump, numerous soil piles, an underground storage tank area, a tank farm, potential flare pit, historical spill area, and other unknown structures identified in the Phase 1 ESA at a Quest Energy Inc. site near Stettler. The average initial Phase 2 ESA cost for southern sites was lowered to $13K (compared to $24k the prior year).

Initial Phase 2 ESAs were completed on 55 sites in the central part of the province with individual costs ranging from $4.4k for a drilling waste disposal area assessment at a Consolidated Ad Astra Minerals Ltd. site near Wainwright to $21k at an Emerald Bay Energy Inc. site near Stettler. The average initial Phase 2 ESA cost for central sites was lowered to $14k (compared to $22k the prior year).

Initial Phase 2 ESAs were completed on 12 sites in the north part of the province with individual costs ranging from $1.5k for hand auger sampling of a potential flare pit during the Phase 1 ESA at a Drake Energy Ltd. site near Rainbow Lake to $25k for an initial Phase 2 at a remote Woodthorpe Petroleum Ltd. site near Keg River. The average initial Phase 2 ESA cost for northern sites was lowered to $14k (compared to $21k the prior year).

Supplemental Phase 2 ESAs were conducted at 43 sites this year to collect additional data for the development of remedial action plans or Tier 2 guidelines. Costs for supplemental ESAs vary widely from site to site depending on the data gaps identified. Individual site costs this year ranged from $3.2k for additional delineation at an Aries Resources Ltd. site near Stettler to $41.4k for a supplemental assessment at a reclaimed native prairie West Ridge Resources Ltd. site to support an argument that remediation is not required. The average cost for a supplemental Phase 2 this year was $11k.

Remaining site expenditures in this category included expenditures on EM surveys and on sampling and decommissioning groundwater monitoring wells that were no longer required. Expenditures also included costs for lagging reporting from the prior year and data gap analysis.

Apex Energy (Canada) Inc. 00/16-16-070-26W5/0
Drilling Waste Disposal Sump Excavation

Remediation Category

As in prior years, the largest Site Reclamation expenditures were for sites in the Remediation category, with $5,566k spent on 39 sites (similar compared to $5,256k on 37 sites in the prior year). The average Remediation category expenditure was $143k per site (similar compared to $142k in the prior year).

Site Expenditures on the three largest Remediation projects ranged from $516k to $668k with an average cost of $612k per site, excluding reclamation and Phase 2 ESA expenditures. Twenty-one other sites had Remediation category expenditures ranging from $26k to $358k, excluding reclamation expenditures. Another ten sites had minor expenditures for activities such as lagging reporting or site preparation for projects that were cancelled. Excluding the three very large projects and sites with minor expenditures, the average Remediation expenditure was $144k per site (compared to $136k per site in the prior year). In addition to the 39 sites counted in this category, one other site had remediation completed but is counted in the Major Reclamation category as more money was spent on reclamation in the year.

The following are highlights of expenditures on Remediation projects this year.

EL Madison Oil Well Servicing Limited 00/07-15-049-25W4/0 ($668k)

The 00/07-15-049-25W4/0 wellsite was turned over to the OWA in 2010. In response to the landowner's son who requested the OWA to start remediation after noticing that there was excess rock and metal debris that was occasionally encountered by the cultivator in the lease area, this site was selected for remediation this year. Site-specific salinity guidelines were developed to reduce the volume of contaminated soil to be addressed at the well center, drilling waste disposal sump and flare pit. Approximately 10,600 tonnes of soil was excavated and 9,615 tonnes of petroleum hydrocarbon and salinity impacted soil was transported to a landfill. The use of site-specific remediation guidelines for this project resulted in savings of more than $100k during the remediation of this site.

EL Madison Oil Well Servicing Limited 00/07-15-049-25W4/2
Flare Pit Excavation

Sarg Oils Ltd. 00/04-36-045-20W4/0 ($652k)

The 00/04-36-045-20W4/0 wellsite and associated facility were turned over to OWA in 2013. The initial site assessment identified petroleum hydrocarbons, salinity and metals impacts predominantly in the rooting zone. Sources of the impacts included the well, former drilling sump, production flare pit, production facilities, and tank farm. The footprint of the facility extended well beyond the boundaries of the surveyed lease and when coupled with the associated access roads, created a large area that the landowner has been unable to farm. Approximately 13,600 tonnes of petroleum hydrocarbon, salinity and metals impacted soil and debris was excavated from the site and transported to a landfill. Due to

the volume of the impacted soil encountered, remediation of the site will continue after site-specific salinity guidelines have been developed.

Apex Energy (Canada) Incorporated 00/16-16-070-26W5/0 ($516k)

The 00/16-16-070-26W5/0 wellsite was turned over to the OWA in 2010. Cornwall Creek is located within 200 m to the southwest of the lease. The site assessment identified hydrocarbon staining at the ground surface and significant petroleum hydrocarbon, salinity and metals impacts in the soil from a flare pit, drilling waste disposal sump, and crude oil spills that had occurred at the site. The grazing lease holder of the area was concerned about exposure of the cattle to contaminants on the lease. This site was ranked as a high priority due to the environmental aspects identified during the assessment. Remediation was initiated in 2016 to address a portion of the contaminants in the drilling waste disposal sump and from the crude oil spills. Approximately 6,591 tonnes of soil was excavated, of which 5,931 tonnes was transported to the landfill. There was 450 tonnes of impacted soil that was placed in a biopile onsite for bioremediation of the petroleum hydrocarbons over the next year.

Young West Oil and Gas Ltd. 00/09-01-023-04W4/2 ($194k)

The 00/09-01-023-04W4/2 wellsite is located on Tsuu T'ina First Nation land. This project was completed in consultation with Indian Oil and Gas Canada personnel and Tsuu T'ina Nation members. The OWA worked with the Tsuu T'ina Nation to retain Tsuu T'ina Nation contractor companies, who were able to put their own members to work to complete the remediation of a cement and shale pit. Approximately 2,000 tonnes of soil was excavated, of which 1,599 tonnes of petroleum hydrocarbon and salinity impacted soil was transported to the landfill. Backfill material was sourced locally from the Tsuu T'ina Nation's land and was used to backfill the remedial excavation.

Sunrise Energy Ltd. Sites

Four Sunrise Energy Ltd. sites near Medicine Hat were remediated in an area project this year. Salt and metals impacted soil was excavated from 00/16-09-011-05W4/0 (4,443 tonnes), 00/05-21-011-05W4/0 (2,345 tonnes), 00/16-21-011-05W4/0 (2,435 tonnes), and 01-17-011-05W4/0 (1,647 tonnes) and transported to a landfill. Cost and time efficiencies were realized by using the same equipment and operators. Equipment was walked between sites as needed so that it was not sitting idle. Bidding out the

work on the four sites together also resulted in a lower bid price from the selected contractor. Additional cost savings were achieved at the 05-21 site by screening the boulders and cobbles out of the impacted soil prior to landfilling. The 16-09 and 01-17 sites were reclaimed immediately following remediation using the same equipment and operator, which also resulted in cost savings. The 05-21 and 16-21 sites will be reclaimed in spring 2017. Seven additional Sunrise Energy Ltd. sites were also reclaimed this year for a total of nine sites reclaimed and returned to the landowner for agricultural use this year.

Sunrise Energy Ltd. 00/05-21-011-05W4/0
Screening Out Boulders from Impacted Soil

Sustainable Remediation

Sustainable remediation was utilized to address the petroleum hydrocarbons present in the soils at the Coho Resources Limited 00/07-23-059-15W5/0 ($125k), Frontier Energy Inc. 00/08-30-084-14W5/2 ($115k), and Goldenrod Resources Inc. 00/10-10-065-20W5/2 ($111k) wellsites. The petroleum hydrocarbon impacted soils were bio-remediated onsite. Remediation of the soils at 00/08-30-084-14W5/2, 00/07-23-059-15W5/0, and 00/10-10-065-20W5/2 included the treatment of an estimated 6,000 tonnes, 4,000 tonnes, and 3,000 tonnes of petroleum hydrocarbon impacted soils, respectively at each site. The treated soil was backfilled into the excavations. Sustainable remediation was undertaken through the treatment of soils onsite, and by not having to transport soil to the landfill and import fill to the site. In addition, cost savings were realized on these projects by not having to pay for hauling the soil

offsite, landfill disposal fees, and purchasing imported fill material.

Remediation Cost savings

Remediation category expenditures were kept low this year by following standard practice of negotiating consultant firm rates, bidding out contractor work, and by working in area projects for operational efficiencies. Cost savings were also realized by implementing site-specific guidelines whenever practical instead of generic Tier 1 guidelines. This also substantially reduced the volumes of soil that needed to be excavated on certain sites. Operational efficiencies were achieved by reclaiming sites, when possible, immediately following remediation and by using the same equipment and utility locates which resulted in additional cost savings. Pre-reclamation work was also conducted prior to remediation (such as proper stripping of topsoil), which resulted in proper top soil conservation which decreased reclamation costs.

Major Reclamation Category

Major Reclamation category expenditures totaled $945k on 30 sites (compared to $1,424k on 34 sites in the prior year). Eight other sites had Major Reclamation activities conducted but were counted in Remediation as they had more money spent on activities in that category. Adding these sites gives a total of 38 sites that had Major Reclamation activities conducted on them (compared to 43 sites total in the prior year). The number of sites reclaimed decreased this year compared to the prior year because of the onset of early winter which shortened the field season in the fall.

The average expenditure for sites in the Major Reclamation category was $32k per site (compared to $42k per site in the prior year). Site expenditures in the Major Reclamation category this year ranged from $5.9k to $110k.

The largest site expenditure in Major Reclamation category was conducted at the Copper Creek Petroleum Inc. 00/13-01-001-20W4/0 site ($110k). This was a large facility and wellsite that was constructed using cut and fill techniques in heavy clay soils. A large amount of dirt work was required to re-contour the site to match the surrounding landscape. In addition, there was a large amount of gravel that had to be loaded and hauled away.

Trophy Petroleum Corporation 00/04-02-086-11W5/0
Reclaiming Access Road

The largest expenditure on major reclamation in the Remediation category was conducted at the Big Valley Energy Corporation 02-07-048-20W4 facility site ($135k) which had a sizeable footprint. This site was counted in the Remediation category as more money was spent on remediation activities in the year. Remediation closure was obtained in October 2016 and the site was reclaimed immediately afterwards. This is a very large facility site, approximately 200 m by 100 m in area, with a 960 m long access road. Approximately 2,287 m^3 of topsoil had to be imported to reclaim the site as none of the original topsoil was salvageable.

Reclamation Cost Savings

The standard practice of bidding reclamation work out to several contractors helped keep costs competitive. Where possible, sites were reclaimed together and were reclaimed immediately following remediation and used the same equipment and utility locates for additional cost savings.

Minor Reclamation Category

Minor Reclamation category expenditures totaled $135k on 17 sites (compared to $102k on 10 sites in

the prior year). Site expenditures ranged from $3k to $13k with an average expenditure of $8k per site (compared to an average of $10k per site in the prior year). Cost variances are mostly a reflection of type of activity required in the year. Activities included repairing minor settling, de-compacting well center areas and access trails, adding small amounts of topsoil, fencing, and seeding.

Monitoring Category

Monitoring activities included vegetation monitoring, site inspections, weed control, and groundwater monitoring. Expenditures on some sites counted in this category also included small costs for lagging remediation reporting from the prior year. Monitoring category expenditures totaled $306k on 177 sites (compared to $376k on 152 sites in the prior year). The average cost per site in the Monitoring category was $2k per site (compared to $2k per site in the prior year).

A total of 19 sites in the Monitoring category have remediation or reclamation work on hold due to landowners/occupants denying access, unresolved issues with overlapping activities, or waiting for ongoing AER enforcement (compared to 11 the prior year). Sites counted in this category that are awaiting remediation as of March 31, 2017 is 24 (compared to 31 the prior year).

Closure Category

Closure activities included conducting detailed site assessments, removing fences, landowner consultation, preparing and submitting Reclamation Certificate applications, dealing with inquiries from the AER about applications, and preparing applications for overlapping exemptions. Some sites counted in this category also had expenditures for lagging remediation reporting from prior years. Closure category expenditures totaled $345k on 208 sites with an average of $2k per site (compared to $395k on 144 sites with an average of $3k per site in the prior year).

FINANCIAL HIGHLIGHTS

This section highlights additional information on the Financial Statements, Statement of Operations.

Revenues ($32,380k)

Orphan Fund Levy ($30,448k)

The AER collects the Orphan Fund levy from the upstream oil and gas industry annually. In 2016/17, the OWA received $30,448k from the AER for the Orphan Fund levy - $15,448k was received in August 2016 and the remaining $15,000k was received in March 2017 (similar to $30,169k received in prior year). In the spring, the OWA prepares a budget and three year business plan for the upcoming fiscal year and the industry members (CAPP and EPAC) approve the OWA budget and the amount of the Orphan Fund levy. The OWA then requests the AER to levy industry the agreed on amount to fund its operations for the upcoming fiscal year. The OWA typically receives slightly more monies than the levy amount invoiced by the AER because the AER invoices a 20% penalty to companies for late payments. The AER remits all levy monies collected including any penalties to the OWA.

On request from the industry associations CAPP and EPAC, the 2015 Orphan Levy was increased to $30,000k to help the OWA address the increase in orphan inventory. Approval from the Alberta Treasury Board is now required for any increases to the orphan levy because of changes to how the AER is structured. Since approval from the Treasury Board for the levy was not received in time in 2015, the AER is in a cycle of issuing two levies of $15,000k to industry instead of one to meet the request for $30,000k. The AER sent out an initial Orphan levy of $15,000k to industry in March 2016 (as $15,000k was approved by Alberta Treasury) and then issued a second Orphan levy $15,000k to industry in August 2016 to make up the $30,000k requested by industry. These two $15,000k levies were collected to fund operations in the 2016/17 fiscal year.

Salvage Sales ($649k)

Salvage sales of $649k were received this year (170% increase compared to $240k in prior year). The monies were received for the sale of tubing and rods included yellow band (Inspected) and red band/not inspected (junk). Salvage values are net of trucking, cleaning, inspection and repair costs. Salvage revenue of $335k came from 7,604 joints of tubing (average of $15.84 to $95.82 per joint) and 3,511 rods (average from $3.00 to $19.10 per rod). Equipment sales included $189k for the sale of 32 pumpjacks (varying sizes), $60.5k for 18 separator/freewater knockout packages, $25.9k in oil credits and $38.9k in miscellaneous equipment. The increase is equipment salvage sales is due to the growing inventory of equipment found on orphan well sites. Remaining salvage has been itemized and listed for sale with a commercial broker for sale to return the equipment to service in the industry.

Industry, Enforcement and Licensee Liability Rating Recoveries ($604k)

A portion of this year's recoveries, $575k was received from the AER (a decrease compared to $1,228k in prior year). $496k was received from Licensee Liability Rating security deposits and $79k was received from successful enforcement action by the AER. In addition, $29k was received from industry recoveries.

Licensee Liability Rating (LLR) Recoveries are received when the AER collects and holds a deposit from a licensee as required by their LLR program. If the licensee subsequently has properties (wells, pipelines, facilities or associated sites) which are designated as orphan, the AER can remit the monies to OWA after it demonstrates that it has orphan expenditures on abandonment or reclamation that meet or exceed the amount of the security deposit. See Table 9 LLR Recoveries below for the amounts which were recovered by the AER for Licensees which were either defunct or insolvent.

Table 9 LLR Recoveries

Defunct or Insolvent Licensee		Amount of Recovery
Aventura Energy Inc	$	5,401.22
Desmarais Energy Corp	$	22,214.77
Gateway Petroleum Inc	$	2,981.55
NEO Exploration Inc	$	97,046.53
Sekur Energy Management Corp	$	92,892.38
Shoreline Energy Corp	$	12,169.51
Sunrise Energy Ltd	$	14,494.64
Tallgrass Energy Corporation	$	248,670.30
Total	**$**	**495,870.90**

Enforcement Recoveries are received when the AER successfully recovers monies from a responsible party to offset expenditures made by the OWA on designated orphan wells, pipelines, facilities or sites. The OWA submits detailed accounts of its expenditures on orphan properties by licensee to the AER. The AER then remits any successfully recovered monies to OWA. The OWA received $78,724.26 in enforcement recoveries from Condor Resources Inc for expenditures made on orphan properties.

Industry Recoveries are funds received from industry. In 2016/17, $29k was received from developers to cover costs to lower casing stubs. Third party requests are usually from developers who want to lower casing stubs of wells in urban or developed areas to meet current AER Directive 020 Well Abandonment requirements (to lower the well casing stub 2 m below grade level). The AER first investigates the third party request and then through a memo gives the OWA the authority to lower the casing stub of a well licensed to a defunct company. The OWA collects a deposit from the third party who requests the work and then conducts the work. Any amounts not used from the deposits are returned to the third party. This is designed to be a revenue neutral process.

First Time Licensee Fees and Regulator Directed Transfer Fees ($580k)

First Time Licensee Fee is a $10,000 fee that is required by the AER as part of the approval process of applications from new licensees who are companies that apply to the AER for their first time approval to hold well, facility and pipeline licenses. The AER receives the funds and then remits them to the OWA. A total of $560k was received through the AER in First Time Licensee Fees this year i.e. the AER granted the approval of 56 applications for First Time Licensees (13.9% decrease compared to $650k prior year).

Regulator Directed Transfer Fee is a fee required by the AER for non-routine transfers of licenses. These fees are for the transfers of well and facility licenses with breached Abandonment Orders from a defunct company to a viable company. The AER receives the funds and then remits them to the OWA. $20k was received through the AER in Regulator Directed Transfer Fees or RDT Fees this year (93.2% decrease compared to $295k prior year). RDT Fees received in this year were for wells and pipelines that were already designated as orphans. A total of 2 routine well licenses were transferred at $10,000 fee per license generating $20k in revenue. Revenue is expected to decrease from RDT fees as the AER is able to elect to waive RDT Fees at its discretion to encourage transfers of licenses out of the OWA inventory.

Investment ($99k)

A total of $99k was received in bank account interest and investment income from short-term investments (16.1% decrease compared to $118k in prior year). The funds held by the OWA for its operating budget are invested at the best available rates in either high interest savings accounts, highly rated banker acceptances, money market instruments or short-term variable rate guaranteed investment certificates. Investment earnings were decreased compared to the prior year because the orphan levy was received in two parts, with the second part later in the year. This timing decreased the investment revenue that could be collected this year because less monies were available to invest at the beginning of the year.

Expenditures ($34,006k)

Expenditures are comprised of Operating Expenditures and Other Expenditures. Total Expenditures in 2016/17 were $34,006 (0.99% increase compared to $33,674k in prior year).

OPERATING EXPENDITURES ($27,137k)

The Operating Expenditures ($27,137k) were decreased (9.5% decrease compared to $30,000k in prior year). See previous Operating Highlights section for information on Well Abandonment, Pipeline Abandonment, Facility Decommissioning and Site Reclamation Expenditures.

OTHER EXPENDITURES ($6,868k)

Other Expenditures are comprised of reimbursements to industry for Working Interest Claims and Fund Administration. These expenditures at $6,868k increased significantly (85.4% increase compared to $3,704k in prior year). The increase can be attributed primarily to an increase in fund administration (3,053k compared to 856k in prior year), which came from a new expense for non-recoverable GST of $1,989k. Working interest claims increased 39% ($3,816k compared to $2,743k in prior year).

Working Interest Claims ($3,816k)

A *Working Interest Claim (WIC)* is a claim submitted by industry to the AER for the proportionate share of abandonment and/or reclamation costs incurred on behalf of a defaulting working interest participant (WIP) when the abandonment and/or reclamation is complete. A WIP is any party to a joint operating or other agreement under which the party is entitled to a proportionate share of cash flows as well as the responsibility for the same proportionate share of costs.

Working Interest Claims can be submitted to the AER formally by letter in accordance with section 16.541 of the *Oil and Gas Conservation Act*. This supersedes the former process used in AER Informational Letter IL 95-03. Abandonment is considered completed when the well abandonment is completed as per AER Directive 020 and the AER Digital Data Submission (DDS) system is updated to indicate both zonal and surface abandonments. Reclamation is considered completed when a reclamation certificate has been issued by the AER on the site.

The AER reviews Working Interest Claims and determines that the claims are for a defunct or insolvent company that has been deemed a defaulting working interest participant in accordance with section 70 (2)(iii)(b)(iii) of the *Oil and Gas Conservation Act*. The AER can then designate a particular property, (i.e. a well, pipeline, facility or associated site) as an orphan for the purpose of reimbursement of a Working Interest Claim.

The AER then gives the Working Interest Claim to the OWA to review for appropriate backup and to provide comment. The OWA requires backup documentation including a summary sheet, invoices and daily reports for all expenditures and salvage credits before claims are reimbursed. GST is reimbursed, while administration, overhead expenses, surface lease payments, utility expenses, municipal taxes and legal expenses are not reimbursed. Note that incomplete claims and claims with insufficient documentation can be rejected at this stage. When the OWA has completed its review and confirmed that all supporting documentation for the claim has been provided, the OWA can proceed with payment directly to the company who made the Working Interest Claim and will then notify the AER of payment.

This year, the AER approved and then the OWA reviewed and reimbursed working interest claims from industry of $3,816k (39.1% increase compared to $2,743k in prior year). See Table 11 Working Interest Claims at the end of this section for details showing the type of claim and % WIP. Working interest claims submitted were for well abandonments (3,253k), pipeline abandonments (94k), facility abandonments (173k), and reclamation (314k).

Non-Recoverable GST Expense ($1,989k)

During fiscal year 2016, the CRA pronounced a new ruling for the OWA which determined that OWA is a GST exempt entity for fiscal years ending March 31, 2014-2016. This change in ruling has resulted in a refund of GST paid during these years, as reduced by the Income Tax Credits claimed by fifty percent as OWA is a not-for-profit entity. The net effect of this ruling resulted in non-recoverable GST expense for the prior years of $1,989k which is recorded in fiscal year end 2017.

Fund Administration ($1,064k)

Fund Administration expenditures of $1,064k are for building lease rentals, insurance, non-recoverable gst, legal, accounting, management and clerical services (24.3% increase compared to $856k prior year). The increase this year is attributed to an increase in legal fees to provide support to the AER in its court applications and to provide legal advice on certain orphans, to the rental of additional file storage space, and to an increase in management and clerical fees to address the increase in inventory of new orphans. Note that the OWA Directors do not receive any remuneration for their voluntary service on the OWA Board of Directors.

Table 11 Working Interest Claims Page 1 of 6

Defunct Licensee	Working Interest Partner	Location Type of Claim	% WIP	WI Claim Amount ($)
Sunrise Energy Ltd	Enerplus Corporation	00/08-18-049-21W4/00 Abandonment	7.0000%	6,741.98
Fairwest Energy Corporation	One Earth Oil & Gas Inc	PL/12-34-029-02W4/05 Abandonment	50.0000%	54,000.00
Fairwest Energy Corporation	One Earth Oil & Gas Inc	00/01-24-030-02W4/00 Abandonment	50.0000%	4,000.00
Fairwest Energy Corporation	One Earth Oil & Gas Inc	00/08-12-030-02W4/00 Abandonment	50.0000%	4,000.00
Fairwest Energy Corporation	One Earth Oil & Gas Inc	00/08-35-029-02W4/00 Abandonment	50.0000%	4,000.00
Fairwest Energy Corporation	One Earth Oil & Gas Inc	00/15-35-029-02W4/00 Abandonment	50.0000%	4,000.00
Fairwest Energy Corporation	One Earth Oil & Gas Inc	00/11-06-030-01W4/00 Abandonment	50.0000%	4,000.00
Fairwest Energy Corporation	One Earth Oil & Gas Inc	00/12-34-029-02W4/00 Abandonment	50.0000%	4,000.00
Fairwest Energy Corporation	One Earth Oil & Gas Inc	00/15-12-030-02W4/00 Abandonment	50.0000%	4,000.00
Fairwest Energy Corporation	One Earth Oil & Gas Inc	00/07-02-030-02W4/00 Abandonment	50.0000%	4,000.00
Fairwest Energy Corporation	One Earth Oil & Gas Inc	00/05-03-030-02W4/00 Abandonment	50.0000%	4,000.00
Fairwest Energy Corporation	One Earth Oil & Gas Inc	00/01-30-030-01W4/00 Abandonment	50.0000%	4,000.00
Fairwest Energy Corporation	One Earth Oil & Gas Inc	00/04-07-030-01W4/00 Abandonment	50.0000%	4,000.00
Fairwest Energy Corporation	Bonavista Energy Corporation	00/07-32-032-09W4/00 Abandonment	78.7500%	35,186.42
Fairwest Energy Corporation	Bonavista Energy Corporation	00/08-32-032-09W4/00 Abandonment	78.7500%	9,008.13
Fairwest Energy Corporation	Bonavista Energy Corporation	00/06-33-032-09W4/00 Abandonment	90.0000%	40,773.93
Fairwest Energy Corporation	Bonavista Energy Corporation	00/07-21-037-09W4/00 Abandonment	83.3817%	59,158.90
Fairwest Energy Corporation	Bonavista Energy Corporation	00/07-30-037-09W4/00 Abandonment	81.7155%	31,256.19
Fairwest Energy Corporation	Bonavista Energy Corporation	00/06-11-038-10W4/00 Abandonment	85.6799%	55,113.28
Alston Energy Inc	Journey Energy Inc	00/02-11-059-04W5/00 Abandonment	75.0000%	27,294.99
Tallgrass Energy Corp	Taqa North Ltd	02/06-29-050-08W5/00 Abandonment	52.1738%	248,670.30
Fairwest Energy Corporation	Bellatrix Exploration Ltd	00/08-04-029-03W4/00 Overcharge-Previous Claim		(15.12)

Table 11 Working Interest Claims Page 2 of 6

Defunct Licensee	Working Interest Partner	Location Type of Claim	% WIP	WI Claim Amount ($)
Petroglobe Inc	ARC Resources Ltd	02/08-24-049-08W5/00 Abandonment	50.0000%	12,904.12
Petroglobe Inc	ARC Resources Ltd	PL/08-24-049-08W5/03 Abandonment	50.0000%	13,806.13
Petroglobe Inc	Penn West Petroleum Ltd	02/06-13-049-10W5/00 Abandonment	75.0000%	23,075.60
Petroglobe Inc	Questfire Energy Corp	02/06-11-047-03W5/00 Abandonment	77.7375%	27,774.47
Petroglobe Inc	Questfire Energy Corp	02/16-14-047-03W5/00 Abandonment	66.8800%	18,052.77
Petroglobe Inc	Questfire Energy Corp	02/08-22-047-03W5/00 Abandonment	81.2500%	24,799.26
Petroglobe Inc	Questfire Energy Corp	00/13-34-047-03W5/00 Abandonment	95.3125%	7,380.60
Windfire Resources Ltd	Nytis Exploration Company Inc	00/08-05-034-28W4/00 Abandonment	56.0000%	1,505.84
Windfire Resources Ltd	Nytis Exploration Company Inc	00/10-08-034-28W4/00 Abandonment	56.0000%	18,345.74
Windfire Resources Ltd	Nytis Exploration Company Inc	00/16-08-034-28W4/00 Abandonment	56.0000%	17,987.83
Hermes Energy Corp	Harvest Operations Corp	00/06-19-041-12W4/00 Abandonment	50.0000%	21,665.90
Hermes Energy Corp	Harvest Operations Corp	02/11-13-041-13W4/00 Abandonment	50.0000%	22,226.38
Hermes Energy Corp	Harvest Operations Corp	02/12-13-041-13W4/00 Abandonment	50.0000%	18,751.02
Hermes Energy Corp	Harvest Operations Corp	00/13-13-041-13W4/00 Abandonment	50.0000%	22,613.43
Hermes Energy Corp	Harvest Operations Corp	03/14-13-041-13W4/00 Abandonment	50.0000%	16,337.37
Hermes Energy Corp	Harvest Operations Corp	04/14-13-041-13W4/00 Abandonment	50.0000%	22,764.87
Hermes Energy Corp	Harvest Operations Corp	05-14-13-041-13W4/02 Abandonment	50.0000%	21,349.46
Hermes Energy Corp	Harvest Operations Corp	06-14-13-041-13W4/00 Abandonment	50.0000%	15,017.76
Hermes Energy Corp	Harvest Operations Corp	07/14-13-041-13W4/00 Abandonment	50.0000%	20,751.28
Hermes Energy Corp	Harvest Operations Corp	08-14-13-041-13W4/00 Abandonment	50.0000%	17,379.91
Hermes Energy Corp	Harvest Operations Corp	FA/13-11-041-13W4/00 Abandonment	50.0000%	2,033.75
Hermes Energy Corp	Harvest Operations Corp	FA/13-13-041-13W4/00 Abandonment	50.0000%	96,667.53

Table 11 Working Interest Claims Page 3 of 6

Defunct Licensee	Working Interest Partner	Location Type of Claim	% WIP	WI Claim Amount ($)
Range Energy Inc (17%) 959696 Alberta Ltd (17%)	Bellatrix Exploration Ltd	00/03-10-097-03W6/00 Abandonment	34.0000%	16,849.84
Range Energy Inc (17%) 959696 Alberta Ltd (17%)	Bellatrix Exploration Ltd	02/10-03-097-03W6/00 Abandonment	34.0000%	20,570.46
660754 Alberta Ltd (21.11%) DG Anderson Holdings Inc (13.33%) Pulsar Energy Services Ltd (5.56%)	Sinopec Daylight Energy Ltd	00/05-17-066-21W5 Abandonment	40.0000%	5,216.10
660754 Alberta Ltd (21.11%) DG Anderson Holdings Inc (13.33%) Pulsar Energy Services Ltd (5.56%)	Sinopec Daylight Energy Ltd	00/06-17-066-21W5 Abandonment	40.0000%	77,997.55
660754 Alberta Ltd (21.11%) DG Anderson Holdings Inc (13.33%) Pulsar Energy Services Ltd (5.56%)	Sinopec Daylight Energy Ltd	00/14-17-066-21W5 Abandonment	40.0000%	103,066.36
660754 Alberta Ltd (21.11%) DG Anderson Holdings Inc (13.33%) Pulsar Energy Services Ltd (5.56%)	Sinopec Daylight Energy Ltd	00/02-20-066-21W5 Abandonment	40.0000%	90,010.57
660754 Alberta Ltd (21.11%) DG Anderson Holdings Inc (13.33%) Pulsar Energy Services Ltd (5.56%)	Sinopec Daylight Energy Ltd	FA/06-17-066-21W5 Abandonment	40.0000%	54,286.90
Hermes Energy Corp (58.431%) Desmarais Energy Corp (8.75%)	Pengrowth Energy Corporation	00/12-35-024-15W4 Abandonment	67.1810%	170,561.85
Gateway Petroleum Inc	Pengrowth Energy Corporation	00/11-34-024-02W4 Abandonment	30.0000%	2,981.55
Legend Energy Canada Ltd	The Paddon Hughes Development Co Ltd	00/15-25-014-21W4 Abandonment	50.0000%	18,963.06
Legend Energy Canada Ltd	The Paddon Hughes Development Co Ltd	00/07-36-014-21W4 Abandonment	50.0000%	23,945.44
Legend Energy Canada Ltd	The Paddon Hughes Development Co Ltd	FA/07-36-014-21W4 Abandonment	50.0000%	2,840.88
NEO Exploration Inc	Corval Energy Ltd	00/06-04-010-11W4 Abandonment	69.1250%	7,171.72

Table 11 Working Interest Claims Page 4 of 6

Defunct Licensee	Working Interest Partner	Location Type of Claim	% WIP	WI Claim Amount ($)
NEO Exploration Inc	Corval Energy Ltd	00/11-04-010-11W4 Abandonment	69.1250%	33,303.39
NEO Exploration Inc	Corval Energy Ltd	00/03-10-010-11W4 Abandonment	69.1250%	23,923.65
NEO Exploration Inc	Corval Energy Ltd	00/16-08-028-28W4 Abandonment	2.1000%	2,066.17
Winter Petroleum Ltd	Taqa North Ltd	00/11-25-109-01W6 Abandonment	20.0000%	7,426.63
Winter Petroleum Ltd	Taqa North Ltd	00/10-21-110-01W6 Abandonment	20.0000%	6,556.80
Winter Petroleum Ltd	Taqa North Ltd	00/11-34-110-01W6 Abandonment	20.0000%	6,839.33
Winter Petroleum Ltd	Taqa North Ltd	00/04-12-110-02W6 Abandonment	20.0000%	36,725.41
Winter Petroleum Ltd	Taqa North Ltd	00/04-09-111-01W6 Abandonment	20.0000%	10,685.15
Winter Petroleum Ltd	Taqa North Ltd	11/16-11-111-01W6 Abandonment	20.0000%	11,243.91
Winter Petroleum Ltd	Taqa North Ltd	00/10-27-111-01W6/00 Abandonment	75.6400%	52,321.86
Winter Petroleum Ltd	Taqa North Ltd	00/10-34-11-01W6 Abandonment	75.6400%	35,194.71
Winter Petroleum Ltd	Taqa North Ltd	00/11-36-111-01W6 Abandonment	75.6400%	94,311.57
Winter Petroleum Ltd	Taqa North Ltd	00/11-04-111-02W6 Abandonment	20.0000%	34,432.48
Fairwest Energy Corporation	Pengrowth Energy Corporation	00/16-03-028-12W4/00 Abandonment	75.0000%	27,978.86
Fairwest Energy Corporation	Pengrowth Energy Corporation	00/10-32-036-09W4/00 Abandonment	84.5679%	21,315.36
Fairwest Energy Corporation	Pengrowth Energy Corporation	00/07-33-036-09W4/00 Abandonment	88.9653%	9,028.86
Fairwest Energy Corporation	Pengrowth Energy Corporation	00/10-34-036-09W4/00 Abandonment	88.9653%	33,809.84
Fairwest Energy Corporation	Pengrowth Energy Corporation	00/11-30-037-10W4/00 Abandonment	88.9653%	160,094.09
Fairwest Energy Corporation	Pengrowth Energy Corporation	00/11-07-038-10W4/00 Abandonment	88.9653%	37,206.98
Fairwest Energy Corporation	Pengrowth Energy Corporation	00/10-09-038-10W4/00 Abandonment	88.9653%	150,843.05
Fairwest Energy Corporation	Pengrowth Energy Corporation	00/06-10-038-10W4/00 Abandonment	83.9610%	3,693.27
Fairwest Energy Corporation	Pengrowth Energy Corporation	00/11-09-036-04W5/00 Abandonment	63.9810%	36,414.95

Table 11 Working Interest Claims Page 5 of 6

Defunct Licensee	Working Interest Partner	Location Type of Claim	% WIP	WI Claim Amount ($)
Alston Energy Inc	Apache Canada Ltd	00/08-09-066-05W5/00 Abandonment	60.0000%	24,857.84
Alston Energy Inc	Apache Canada Ltd	FA/08-09-066-05W5/00 Abandonment	60.0000%	17,555.24
Stealth Ventures Inc	Cenovus Energy Inc	00/09-09-048-07W4/00 Abandonment	95.9120%	19,298.58
Stealth Ventures Inc	Cenovus Energy Inc	00/11-09-048-07W4/00 Abandonment	95.9120%	16,646.61
Legend Energy Canada Ltd	Signalta Resources Ltd	00/16-30-038-02W5/00 Abandonment	64.8268%	65,561.92
Barca Resources Ltd	Taqa North Ltd	00/03-36-059-16W5/00 Abandonment	12.5000%	58,860.55
959696 Alberta Ltd	Bellatrix Exploration Ltd	02/10-03-097-03W6/00 Abdn - Reimbursement	17.0000%	(10,285.23)
959696 Alberta Ltd	Bellatrix Exploration Ltd	00/03-10-097-03W6/00 Abdn - Reimbursement	17.0000%	(8,424.92)
Sekur Energy Management Corp	Cansearch Resources Ltd	00/12-10-038-26W4/00 Abandonment	79.0205%	132,192.73
Sekur Energy Management Corp	Cansearch Resources Ltd	F1/12-10-038-26W4/00 Abandonment	79.0205%	1,688.08
Sekur Energy Management Corp	Cansearch Resources Ltd	00/06-11-038-26W4/00 Abandonment	79.0205%	113,631.49
Sekur Energy Management Corp	Cansearch Resources Ltd	00/12-11-038-26W4/00 Abandonment	79.0205%	2,319.85
NEO Exploration Inc	Chinook Energy Inc	00/06-18-009-11W4/00 Abandonment	17.5000%	4,012.45
NEO Exploration Inc	Chinook Energy Inc	00/05-19-009-11W4/00 Abandonment	35.0000%	9,788.32
NEO Exploration Inc	Chinook Energy Inc	00/01-24-009-12W4/00 Abandonment	30.0000%	5,164.07
Shoreline Energy Corp	Chinook Energy Inc	00/06-03-070-06W6/00 Abandonment	53.9580%	72,379.67
Shoreline Energy Corp	Chinook Energy Inc	00/08-04-070-06W6/00 Abandonment	53.9580%	49,229.84
Sekur Energy Management Corp (15%) NEO Exploration Inc (35%)	Encana Corporation	00/08-24-048-28W4/00 Abandonment	50.0000%	16,595.37
Hermes Energy Corp	Marquee Energy Ltd	00/01-09-076-07W6/00 Abandonment	60.0000%	9,472.27
Hermes Energy Corp	Marquee Energy Ltd	00/02-09-076-07W6/00 Abandonment	60.0000%	16,047.47
Hermes Energy Corp	Marquee Energy Ltd	00/08-09-076-07W6/00 Abandonment	60.0000%	16,165.11

Table 11 Working Interest Claims Page 6 of 6

Defunct Licensee	Working Interest Partner	Location Type of Claim	% WIP	WI Claim Amount ($)
Sekur Energy Management Corp	Zargon Oil & Gas Ltd	02/14-06-040-25W4/00 Abandonment	83.3300%	13,232.17
Sekur Energy Management Corp	Cansearch Resources Ltd	PL/12-10-038-25W4/09 Abandonment	79.0205%	22,226.25
Legend Energy Canada Ltd	Spyglass Resources Corp	00/06-35-013-16W4/00 Abandonment	80.0000%	35,299.88
Terra Energy Corp	RMP Energy Inc	02/15-17-081-11W6/00 Abandonment	50.0000%	59,208.16
Poplar Point Energy Ltd	Harvest Operations Corp	00/16-31-040-04W5/00 Abandonment	50.0000%	6,559.39
Poplar Point Energy Ltd	Harvest Operations Corp	03/12-33-040-04W5/00 Abandonment	75.0000%	10,963.88
Poplar Point Energy Ltd	Harvest Operations Corp	PL/13-32-040-04W5/01 Abandonment	50.0000%	1,793.19
Poplar Point Energy Ltd	Harvest Operations Corp	PL/12-33-040-04W5/01 Abandonment	75.0000%	2,409.53
Legend Energy Canada Ltd	Harvest Operations Corp	02/06-21-039-01W5/02 Abandonment	75.0000%	149,150.81
Fairwest Energy Corporation	Freehold Royalties Ltd	00/06-20-038-09W4/00 Abandonment & Reclamation	79.7721%	38,375.49
Frontier Energy Inc	Crescent Point Energy Corp	02/14-32-106-03W5/00 Abandonment & Reclamation	55.0000%	44,914.24
597395 Alberta Ltd	Canadian Natural Resources Limited	00/06-22-013-22W4/00 Reclamation	50.0000%	10,379.34
Sunoma Energy Corp	Canadian Natural Resources Limited	00/10-19-024-18W4/00 Reclamation	22.3700% 35.6900%	4,359.55
Simmons Drilling Ltd	Canadian Natural Resources Limited	00/06-14-057-18W4/00 Reclamation	50.0000%	16,174.46
Probe Explorations Inc	Canadian Natural Resources Limited	00/13-23-062-24W4/03 Reclamation	45.0000%	83,857.50
Sunoma Energy Corp	Canadian Natural Resources Limited	00/16-19-009-24W4/00 Reclamation	64.5500%	179,835.68
Total				**3,815,755.45**

* Type of Claim
- Abandonment = reimbursement for a well abandonment completed with surface abandonment
- Pipeline Abandonment = reimbursement for a pipeline abandonment, number of segments noted
- Reclamation = reimbursement for wellsite reclamation

ALBERTA OIL AND GAS ORPHAN ABANDONMENT AND RECLAMATION ASSOCIATION

Financial Statements

March 31, 2017

Grant Thornton

Independent Auditor's Report

Grant Thornton LLP
Suite 900
833 - 4th Avenue SW
Calgary, AB
T2P 3T5

T +1 403 260 2500
F +1 403 260 2571
www.GrantThornton.ca

To the members of the

Alberta Oil and Gas Orphan Abandonment and Reclamation Association

We have audited the accompanying financial statements of the **Alberta Oil and Gas Orphan Abandonment and Reclamation Association** (the "Association") which comprise the statement of financial position as at March 31, 2017, and the statements of operations, changes in net assets and cash flows for the year then ended and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the financial statements
Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility
Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the company's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

Grant Thornton

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Association as at March 31, 2017, and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

Calgary, Canada
June 27, 2017

Grant Thornton LLP
Chartered Professional Accountants

ALBERTA OIL AND GAS ORPHAN ABANDONMENT AND RECLAMATION ASSOCIATION

Statement of Financial Position
As at March 31, 2017
(thousands of dollars)

		2017		2016
Assets				
Current assets				
Cash	$	**2,903**	$	2,214
Accounts receivable from the AER		**14,115**		15,093
GST receivable (Note 4)		**1,963**		531
Prepaid expense and other receivables		**175**		113
	$	**19,156**	$	17,951
Liabilities and net assets				
Current liabilities				
Accounts payable and accrued liabilities	$	**3,902**	$	1,071
Unrestricted net assets		**15,254**		16,880
	$	**19,156**	$	17,951

Commitment (Note 9)

See accompanying notes to financial statements.

Approved by the Board:

Director

Director

ALBERTA OIL AND GAS ORPHAN ABANDONMENT AND RECLAMATION ASSOCIATION

Statement of Operations
Year ended March 31, 2017
(thousands of dollars)

		2017		2016
Revenues				
Orphan fund levy through the AER	$	**30,448**	$	30,169
Salvage sales		**649**		240
Industry, enforcement and licensee liability rating recoveries through the AER		**603**		1,612
First time licensee fees and regulator directed transfer fees through the AER		**580**		944
Interest income		**100**		118
		32,380		33,083
Expenses				
Operating				
Well abandonment		**12,483**		16,742
Site reclamation		**10,213**		9,857
Pipeline abandonment		**2,283**		1,913
Facility decommissioning		**2,158**		1,457
		27,137		29,969
Other				
Working interest claims (Note 5)		**3,816**		2,743
Fund administration (Note 6)		**1,064**		856
AER enforcement activities (Note 7)		**-**		106
Non-recoverable GST expense (Note 4)		**1,989**		-
		6,869		3,705
		34,006		33,674
Deficiency of revenues over expenses	$	**(1,626)**	$	(591)

See accompanying notes to financial statements.

ALBERTA OIL AND GAS ORPHAN ABANDONMENT AND RECLAMATION ASSOCIATION

Statement of Changes in Unrestricted Net Assets
March 31, 2017
(thousands of dollars)

	2017	2016
Balance, beginning of year	**$ 16,880**	$ 17,471
Deficiency of revenues over expenses	**(1,626)**	(591)
Balance, end of year	**$ 15,254**	$ 16,880

See accompanying notes to financial statements.

ALBERTA OIL AND GAS ORPHAN ABANDONMENT AND RECLAMATION ASSOCIATION

Statement of Cash Flows
Year ended March 31, 2017
(thousands of dollars)

		2017		2016
Cash provided by (used in)				
Operating				
Deficiency of revenues over expenses	$	(1,626)	$	(591)
Changes in operating non-cash working capital				
Decrease (increase) in accounts receivable from the AER		978		(38)
Increase in GST receivable		(1,432)		(409)
(Increase) decrease in prepaid expense and other receivables		(62)		2
Increase in accounts payable and accrued liabilities		2,831		724
		689		(312)
Net increase (decrease) in cash		689		(312)
Cash, beginning of year		2,214		2,526
Cash, end of year	$	2,903	$	2,214

See accompanying notes to financial statements.

Note 1 Authority and purpose

The Alberta Oil and Gas Orphan Abandonment and Reclamation Association ("OWA" or the "Association") operates under the authority of the Oil and Gas Conservation Act, Orphan Fund Delegated Administration Regulation, and the Societies Act, Chapter S-18, 1980, as amended. The OWA was created as a Delegated Administration Organization ("DAO") under the delegated authority of the Alberta Energy Regulator ("AER") and was established to manage the abandonment of Alberta upstream oil and gas orphan wells, pipelines, facilities and the reclamation of associated sites. The Members of the OWA are the Canadian Association of Petroleum Producers (CAPP), the Explorers and Producers Association of Canada (EPAC), the AER and Alberta Environment and Sustainable Resource Development (honorary non-voting Member).

Note 2 Significant accounting policies

a) Basis of presentation

The Association's financial statements are prepared in accordance with Canadian accounting standards for not-for-profit organizations.

b) Revenue recognition

The OWA follows the deferral method of accounting for contributions. Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and the collection is reasonably assured. Restricted contributions are recognized as revenue in the year in which the related expenses are incurred.

c) Financial assets and liabilities

Initial measurement: Upon initial measurement, the Association's financial assets and liabilities are measured at fair value, which, in the case of financial assets or financial liabilities that will be measured subsequently at amortized cost, is increased or decreased by the amount of the related financing fees and transaction costs.

Subsequent measurement: At each reporting date, the Association measures its financial assets and liabilities at amortized cost (including any impairment in the case of financial assets).

The Association records cash, accounts receivable from the AER, other receivables, and accounts payable and accrued liabilities at amortized cost.

Financial assets measured at amortized cost are assessed for indications of impairment. When there is an indication of impairment indicating a significant adverse change in the expected timing or amount of future cash flows from the financial asset, an impairment loss will be recognized in the statement of operations. The reversal of a previously recognized impairment loss on a financial asset measured at amortized cost is recognized in the statement of operations in the year the reversal occurs.

Note 2 Significant accounting policies (continued)

d) Use of estimates

The preparation of the financial statements in conformity with Canadian accounting standards for not for profit organizations requires management to make estimates and assumptions which affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the year. Due to the inherent uncertainty involved with making such estimates, actual results reported in future years could differ from those estimates.

Items subject to significant management estimate include accrued liabilities.

e) Not for profit status

The OWA, as a not for profit organization, has no liability for income tax under the Income Tax Act (Canada).

Note 3 Economic dependence and contributions

The OWA receives substantially all of its revenue through the AER. The AER collects the Orphan fund levy, first time licensee fees, regulatory directed transfer fees, enforcement recoveries, and liability licensee rating recoveries from industry. These funds are then contributed directly to the OWA. The annual revenue received by the OWA is subject to budget submission to the AER.

Note 4 GST receivable and non-recoverable GST expense

During fiscal 2016, the CRA pronounced a new ruling for the OWA which determined that OWA is a GST exempt entity for fiscal years ending March 31, 2014 - 2016. This change in ruling has resulted in a refund of GST paid during these years, as reduced by the income tax credits claimed by fifty percent as OWA is a not-for-profit entity. The net effect of this ruling has resulted in a GST receivable of $1,963 (2016 - $531) and non-recoverable GST expense of $1,989 (2016 - $nil).

The impact of the new ruling has been treated as a change in accounting estimate based on the new information received during the year, and accounted for prospectively. As a result, non-recoverable GST expense for the prior years has been recorded in the fiscal year ended March 31, 2017.

Note 5 Working interest claims

The OWA accepts claims from the AER made by industry for defunct working interest partners. Working interest partners are any party under a joint operating or other agreement under which the party is entitled to a proportionate share of cash flows as well as costs. If a company has a defunct working interest partner with a well, facility or associated site that is deemed orphan by the AER, the OWA will reimburse the proportionate share of costs on behalf of the defunct working interest partner of the completed abandonment and/or the completed reclamation. Reclamation is considered completed and reimbursement can be made when a reclamation certificate has been issued on the site.

Note 6 Fund administration

Fund administration includes contract payments to management of $345 (2016 - $338). No remuneration and benefit payments were made to Board members for 2017 and 2016.

Note 7 AER enforcement activities

AER enforcement activities expenses are amounts paid to the AER for third party abandonment expenditures on wells, pipelines and facilities incurred by the AER during their enforcement actions against liable parties. In cases when the wells, pipelines or facilities are subsequently deemed orphan by the AER, the OWA will reimburse the AER for these expenses.

Note 8 Financial instruments

The Association's main financial risk exposure is detailed as follows:

(i) Credit risk

The Association is exposed to credit risk, which is the risk that a counterparty will fail to perform an obligation or settle a liability, resulting in a financial loss to the Association. The Association's accounts receivable are primarily due from AER and are subject to normal credit terms. The maximum credit risk exposure associated with the Association's financial assets is the carrying amount.

(ii) Liquidity risk

The Association is exposed to liquidity risk which is the risk that the Association will be unable to generate or obtain sufficient cash to meet obligations as they fall due. Mitigation of this risk is achieved through the active management of cash and debt. The liquidity risk is assessed as low for the Association.

The contractual maturities of financial liabilities as of March 31, 2017 are as follows:

	Total	2018	2019	2020	2021	Thereafter
Accounts payable and accrued liabilities	$ 3,902	$ 3,902	$ -	$ -	$ -	$ -

Note 9 Commitment

The AER provides administrative services to the OWA, including office space, facilities and equipment, building services, and computer support services. Contracted payments are as follows:

	Total	2018	2019	2020	2021	2022-2030
Contracted payments	$ 898	$ 63	$ 65	$ 65	$ 67	$ 637