



**Orphan Well
Association**

Alberta Oil and Gas Orphan Abandonment and Reclamation Association

Orphan Well Association

2013/14 Annual Report

June 2014

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Canada West Resources Inc. 02/08-21-031-18W4/0

CHAIRMAN'S MESSAGE

2013/14 was a year of growth for the Orphan Well Association (OWA). The OWA is an independent not for profit organization that operates under the delegated authority of the Alberta Energy Regulator (AER). Our funding comes primarily from the upstream oil and gas industry.

This fiscal year, the OWA funded over \$14 million of orphan abandonment and reclamation work. We saw a jump in inventory of new orphan wells received from the AER due to changes in its liability management program and due to increases in industry bankruptcies and receiverships. We also saw continued industry participation through working interest claims and increased AER enforcement action.

The OWA conducted additional assessment work on abandoned wells in proximity to urban structures. The OWA conducted this work on behalf of the Crown without prejudice to ultimate liability in order to ensure landowners were not impacted by any of these wells. This work contributed to the OWA operational costs this past year.

The OWA has received an increase in funding from industry to help us address the increase in our inventory of orphans in the coming year. By providing this additional funding, the upstream oil and gas industry is demonstrating its continued commitment to dealing with upstream oil and gas orphans so they do not represent a liability to the Alberta taxpayer.

A handwritten signature in black ink, appearing to read "David Pryce".

David Pryce
Chairman



BACKGROUND

Orphan Well Association

The Alberta Oil and Gas Orphan Abandonment and Reclamation Association is a not for 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, established in June 2013, rolls together for the energy industry, the cross functions of the Alberta Energy Resources Conservation Board (ERCB) and Alberta Environment and Sustainable Resource Development (ESRD), formerly Alberta Environment (AENV).

The OWA was established in 2002, as a result of collective efforts between the upstream oil and gas industry and the 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. The Alberta government supports the OWA through the AER and ESRD which:

- (1) Initiates appropriate enforcement actions to ensure that the responsible parties address their obligations to deal with their well and facility abandonment and reclamation liabilities, and
- (2) Develops appropriate policies to minimize unfunded orphan liability and to prevent the creation of new orphans.

The OWA, AER and ESRD 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 which can be wells, pipelines, facilities or associated sites that have been investigated by the AER for legally responsible and/or financially viable parties and are then designated as orphan through a memo. As part of this process, the AER investigates and 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 through a separate signed memo.

In July 2012, the AER established a significant procedure change which allows it to designate companies to the program that are, in the AER's opinion, insolvent or not financially viable companies which can still be active on corporate registries, i.e. not defunct. With this change and with updates in May 2013, May 2014 and May 2015 to the AER's Liability Management system, the OWA is anticipating an increase in the number of orphans in the coming years.



ESRD participates in the orphan process by providing the legal authority to the AER to give the OWA the right of access to conduct our site reclamation activities on orphan well or facility sites through an Environmental Protection Order (EPO) issued to the defunct or insolvent operator. Through the AER (ESRD) process, the OWA is given the legal authority to access sites to conduct its site reclamation activities. Note that the use of the term site reclamation in this report is as defined in Alberta legislation to include remediation or decontamination as well as reclamation.

The AER collects funds from 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 which determines the amount of the Orphan Fund levy. This budget is then approved by its voting Member organizations: Canadian Association of Petroleum Producers (CAPP), Explorers and Producers Association of Canada (EPAC), and the AER. When this occurs, the AER then proceeds to collect the annual Orphan Fund levy from industry.

Directors of the Orphan Well Association

Five representatives are appointed as directors by our Member organizations. As per our by-laws, our directors are listed as follows:

- David Pryce, Vice-President, Canadian Association of Petroleum Producers
- Orest Kotelko (Canadian Natural Resources Limited), Canadian Association of Petroleum Producers
- David Wolf (Stone Petroleum Ltd.), Explorers and Producers Association of Canada
- Kevan van Velzen, Alberta Energy Regulator
- Shannon Flint, Alberta Environment and Sustainable Resource Development (honorary non-voting director)



Petromine Exploration & Finance Company 00/16-09-028-12W4/0
Reclaimed Site July 2013

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 \$223 million that has been collected since 1992 to fund orphan activities, over \$184 million was contributed by the upstream oil and gas industry in Alberta or 83%.

In addition to industry contributions, Alberta Energy contributed over \$30 million or 13%. First, in 2009 there was a one time grant funding of \$30 million as part of the Government of Alberta's three part economic stimulus plan which was implemented after the fall of 2008. Second, there was a contribution of \$50,000 to the OWA as support for additional work that was directed by the AER in 2012 under Directive 079 to help the government do abandoned well locating and testing in urban areas for wells which are licensed to defunct companies and are not designated as orphan. In addition, \$9 million or 4% came from interest earned on funds held.

Prior to September 1997, the AER (formerly the ERCB) had the legal authority to conduct well abandonments on orphans. The provincial legislation was then expanded in 1997 to give the AER the legal authority to conduct additional orphan activities such as pipeline abandonment, facility



decommissioning and reclamation of associated sites. The AER conducted the abandonment, decommissioning and reclamation orphan activities under the Alberta Orphan Program until March 31, 2002. Starting on April 1, 2002, the OWA commenced operations on the same orphan activities as a separate not for profit organization from the AER.

Figure 1 – Historical Summary of Funding

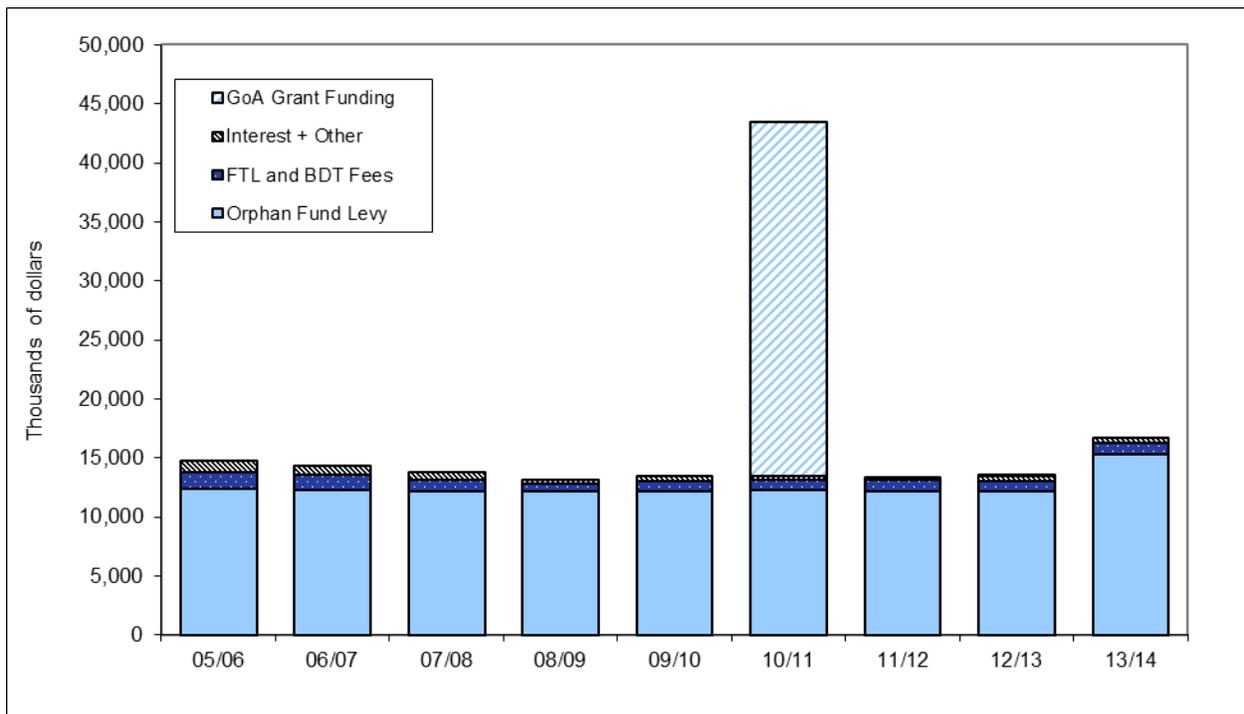


Table 1 – Historical Summary of Funding (\$k)

Year (Apr 1 to Mar 31)	Prior Years	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	Totals
GoA Grant Funding							30,000		50		30,050
Orphan Fund Levy	50,566	12,321	12,205	12,072	12,087	12,110	12,274	12,076	12,151	15,242	163,104
FTL and RDT Fees	11,990	1,460	1,360	1,020	640	890	820	1,040	850	930	21,000
Interest + Other	4,858	902	667	593	383	410	272	202	367	429	9,083
Total Revenue (\$k)	67,414	14,683	14,232	13,685	13,110	13,410	43,366	13,318	13,418	16,601	223,237

Up to 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. During that time, the AER implemented new changes to its liability program. After April 1, 2002, 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.

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 (Site Reclamation, Well Abandonment, Pipeline Abandonment and Facility Decommissioning). The fifth type of expenditure (AER Enf Activities/WIC) is a combination of AER Enforcement Activities and industry Working Interest Claims. See Financial Highlights, Expenditures Section for more information on these types of expenditures.

To date, total expenditures on these five types of expenditures are \$198 million. The bottom of Table 2 shows what makes up the difference between Historical Revenue (\$223 million) and Historical Operating Expenditures (\$198 million). This \$23 million difference is comprised of the following:

- Admin (Administration) for 17 years of \$6.98 million or 3.1% of total,
- Orphan Fund Levy of \$15.2 million collected for the following year 2014/15 operations, and
- Operating Balance of \$3.41 million.



OPERATING HIGHLIGHTS

In 2013/14, total expenditures of \$12,650k were spent on Operating Activities (18% increase from \$10,683k in prior year). Summarized below is a table that shows the four types of operating expenditures and their percent of total expenditures for 2013/14.

Operating Expenditures (\$k)		
Site Reclamation	8,963	71%
Well Abandonment	3,462	27%
Facility Decommissioning	134	1%
Pipeline Abandonment	91	1%
Total	12,650	100%

Site Reclamation

The OWA's largest type of operating expenditure is Site Reclamation. The total expenditure on Site Reclamation in this year was \$8,963k. Expenditures on Site Reclamation remain high because the inventory of orphan sites that require reclamation certificates is larger than the inventory of wells, pipelines and facilities that require abandonment.

This year's inventory as of March 31, 2014 grew to 416 orphan sites compared to 387 in prior year. This is because the number of new orphan sites turned over to the OWA was greater than the number of orphan sites which received closure. A total of 55 new orphan sites were turned over by ESRD for reclamation this year and added to the orphan inventory.

Site Reclamation Closure Count

The Site Reclamation Closure Count, which is the count of orphan sites which have obtained closure, is shown in Figure 3 and Table 3. To date, closure has been obtained on 489 out of 872 (56%) orphan sites. The count of orphan sites is based on the total count of 408 sites that have received reclamation certificates (*Sites RC Received*) plus 81 sites that have received some other type of closure (*Sites Handled*) plus 416 sites in year-end inventory minus 33 sites that have received reclamation certificates or some other type of closure this year.



Seven Memorandums of Surrender were issued by Indian Oil and Gas Canada (IOGC) in the last fiscal year 2012/13 for federal government closure on sites on federal reserve land. However, they were received by the OWA in this fiscal year. In addition, one Reclamation Certificate was issued by ESRD in 2012/13, but was also received by the OWA in this fiscal year. The Sites RC Received count is based on the actual date the Memorandum of Surrender (for federal reserve land) or Reclamation Certificate (for provincial public and private land) was issued; therefore the Sites RC Received count for 2012/13 has been adjusted from 25 to 33, to account for the additional seven Memorandums of Surrender and one Reclamation Certificate received after the 2012/13 annual report was finalized.

The Closure Count terms used are further described below.

Sites RC Received

Sites counted in this category have received a Reclamation Certificate from ESRD or one of its predecessor regulatory bodies. Note that the responsibility for issuing Reclamation Certificates for upstream oil and gas sites for private and public lands transferred from ESRD to the AER on March 31, 2014. This category also includes sites on federal reserve land that have received signed Memorandums of Surrender from 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. Sites that are counted can either be well sites or facility sites. 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.

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 revegetate 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.

Thirty-two orphan sites received Reclamation Certificates this year (compared to 33 in the prior year, after addition of the seven Memorandums of Surrender and one Reclamation Certificate). In addition, there were 32 applications for Reclamation Certificates submitted that are awaiting review by the AER as of March 31, 2014.



Figure 3 – Site Reclamation Closure Count

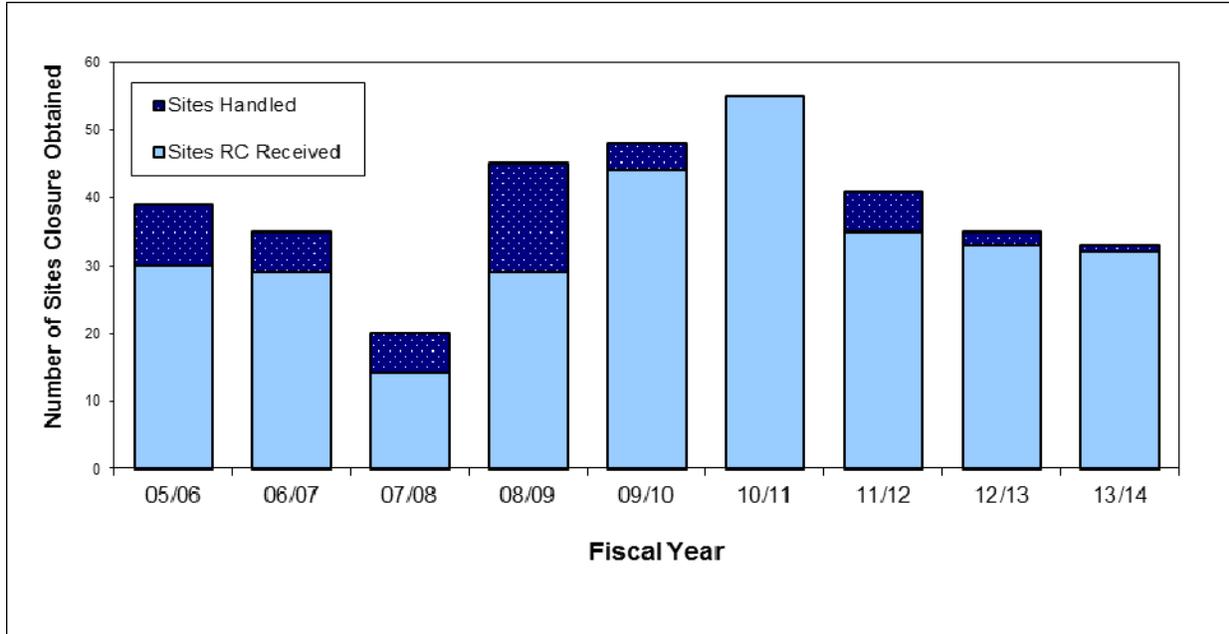


Table 3 – Site Reclamation Closure Count

Fiscal Year (Apr 1 to Mar 31)	Prior Years	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	Total
Sites RC Received	107	30	29	14	29	44	55	35	33	32	408
Sites Handled	31	9	6	6	16	4	0	6	2	1	81
Site Reclamation Closure Count	138	39	35	20	45	48	55	41	35	33	489

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 a) are in the White Area (private land) of the province and were abandoned prior to June 1, 1963, or b) are in the Green Area (Crown land) of the province and were abandoned prior to August 15, 1978. Rec Exempt well sites are not considered “specified land” by ESRD and therefore do not require a Reclamation Certificate. For Rec Exempt sites, any surface reclamation issues that impede the current land use are addressed. The OWA documents the work done and notifies ESRD (the AER as of March 31, 2014) with a letter of 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. Sites that are taken over by active oil and gas companies by overlapping an orphan site with a new surface lease are also counted in this category. One facility site was counted as Handled this year.

Reclamation and Remediation Definitions

In this report, Site Reclamation is broadly broken into two types of activities, reclamation and remediation. This broad breakdown is shown in two rows in Table 4 2013/14 Site Reclamation Costs by Category and in Table 5 2013/14 Average Site Reclamation Costs by Category. This year, Site Reclamation expenditures were 25% on reclamation and 75% on remediation (compared to 20% and 80% prior year).

Reclamation is the term used to describe activities that focus on returning the land to its equivalent land use capability. Reclamation activities can include subsoil replacement, re-contouring and de-compaction, re-establishment of drainage, topsoil replacement and revegetation of disturbed land. They 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 is the term used to describe the activities that include the investigation and removal of contaminant impacts to soil and groundwater as per current ESRD regulatory guidelines. Remediation (also known as decontamination) is typically completed before a site is reclaimed.

Site Reclamation 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 then reclaimed in the same year, the site would be assigned to the Remediation Category if more money was spent on remediation than on reclamation. Similarly, if the remediation was minor and more money was spent to reclaim the site than to remediate it, the site would be assigned to the Major or Minor Reclamation Category depending on the type of activity that was conducted.

The 2013/14 Site Reclamation Costs by Category are shown in Figure 4 and Table 4, and the 2013/14 Average Site Reclamation Costs by Category are shown in Figure 5 and Table 5. Note that the average cost per site given in Table 5 is affected by the distribution and type of work conducted on all the sites that are in the Category. For example, in the Phase 2 Environmental Site Assessment (ESA) and Remediation categories, sites with significant lagging reporting expenditures for Phase 2 ESA or Remediation 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.



Acumen Energy Corporation Limited 02/08-10-029-18W4/0
Site reclamation work, October 15, 2013

Site Reclamation Categories are described below and typically occur in the same order that the Categories are listed:

Startup: Sites in this category were typically received as new orphans in the fiscal year. Work may include conducting Phase 1 Environmental Site Assessments (ESAs), landowner contact and interviews, initial site visits, posting OWA signs, initial weed control and pre-reclamation site assessments.

Phase 2 ESA: Sites in this category had 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), conducting ground disturbance checks, surveying, drilling, installing groundwater monitoring wells, sampling soil and groundwater, lab analyses and report preparation. This category includes Tier 2 approach assessment work, which uses highly detailed site investigations and contaminant transport



modeling to develop site-specific guidelines.

Remediation: Sites in this category had remediation conducted including, but not limited to, dealing with impacts associated with flare pits, drilling waste sumps, underground storage tanks, well centre, spills and other pits. Work may have included hauling impacted material to a landfill or the operation and maintenance of in-situ soil and groundwater treatment systems and confirmatory sampling of soil and groundwater.

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

Minor Reclamation: Sites in this category had limited reclamation work conducted such as minor soil disturbances like paratilling for soil decompaction, rock picking, removal of debris, repairing minor slumping at well centre or repairing erosion on access roads. 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, landowner consultation, preparing and submitting application documents, and responding to application inquiries from ESRD. Work to obtain 100% overlapping agreements with a third-party operator was also included in this category.



Figure 4 – 2013/14 Site Reclamation Costs By Category

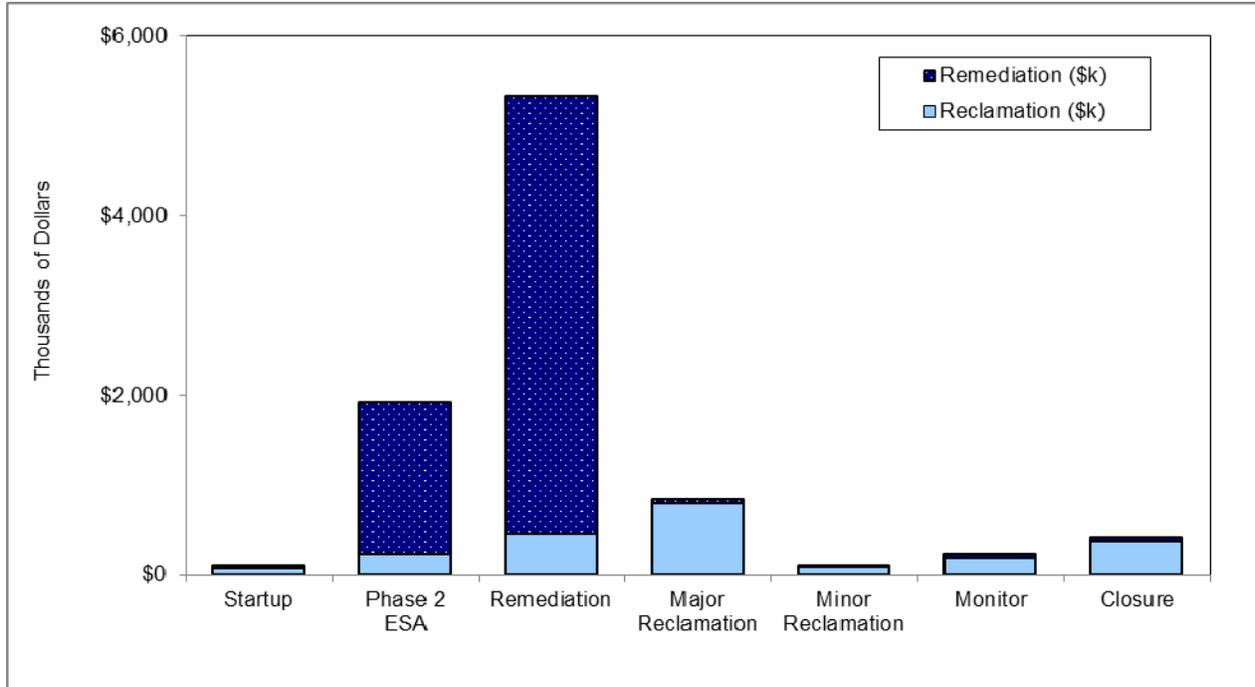


Table 4 – 2013/14 Site Reclamation Costs By Category

Activity	Site Reclamation Category							Total
	Startup	Phase 2 ESA	Remediation	Major Reclamation	Minor Reclamation	Monitor	Closure	
Reclamation (\$k)	78,396	238,895	460,529	799,545	90,618	189,692	373,663	2,231,338
Remediation (\$k)	24,103	1,687,705	4,874,516	40,789	4,226	50,987	49,113	6,731,439
Total (\$k)	102,499	1,926,600	5,335,045	840,334	94,844	240,679	422,776	8,962,777
Number of Sites	14	63	64	18	10	135	112	416



Figure 5 – 2013/14 Average Site Reclamation Costs By Category

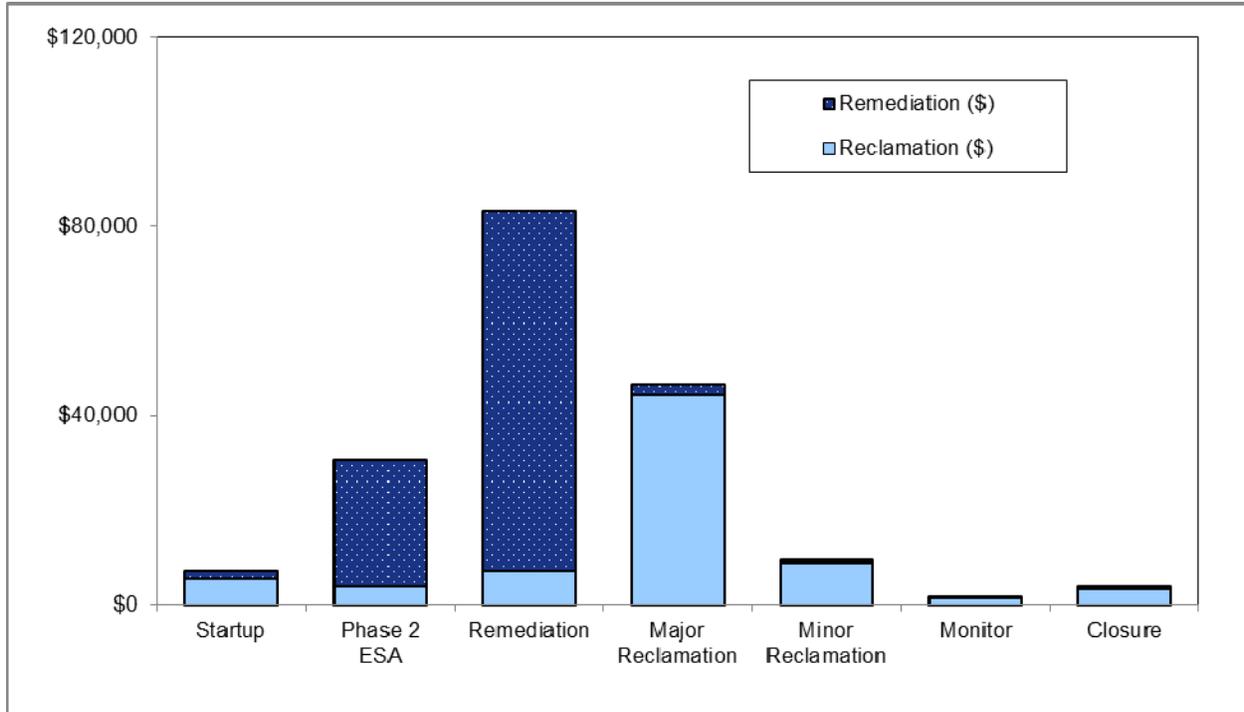


Table 5 – 2013/14 Average Site Reclamation Costs By Category

Activity	Site Reclamation Category							Total
	Startup	Phase 2 ESA	Remediation	Major Reclamation	Minor Reclamation	Monitor	Closure	
Reclamation (\$)	5,600	3,792	7,196	44,419	9,062	1,405	3,336	5,364
Remediation (\$)	1,722	26,789	76,164	2,266	423	378	439	16,181
Total (\$)	7,321	30,581	83,360	46,685	9,484	1,783	3,775	21,545
Number of Sites	14	63	64	18	10	135	112	416



Comments by Site Reclamation Category

The following are comments on Site Reclamation activities conducted this year by Category:

Startup category

Startup activities included landowner contact, initial site inspections, weed control, Phase 1 ESAs, and EM surveys. Startup category expenditures totaled \$102k on 14 new orphan sites compared to \$62k on eight new sites in the prior year. From Table 5, the average expenditure per site was \$7k (compared to \$8k per site in the prior year).

Note that although there are 14 new orphan sites in the Startup category, most new orphan sites are counted in the Phase 2 ESA category. In addition, one new orphan site is counted in the Closure category because the well was never drilled and the site was reclaimed by the defunct operator, so the site did not require a Phase 1 ESA and was ready for a detailed site assessment in the same year it was received.

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. For sites with large impacts, detailed site investigations provide crucial information for developing Remedial Action Plans that have more accurate cost estimates and more detailed work scopes.

Phase 2 ESA category expenditures were a total of \$1,927k on 63 sites (compared to \$1,660k on 67 sites in the prior year). From Table 5, the overall average Phase 2 ESA category cost was \$30k (compared to \$25k per site in the prior year and \$27k in 2011/12). Individual site expenditures ranged from \$1.1k for lagging reporting to \$132k for an extensive supplemental investigation.

Thirty-two of the 63 sites had initial Phase 2 ESAs conducted on them for an average of \$28k per site with a range from \$17k to \$53k including reclamation and Phase 1 costs. Excluding reclamation and Phase 1 costs, the average cost of an initial Phase 2 ESA was \$23k (compared to \$32k in the prior year). An additional three new sites in this category had both initial and supplemental Phase 2 ESAs conducted this year, with total site expenditures ranging between \$52k and \$66k per site.

The largest expenditures in this category (\$131k and \$108k, excluding reclamation costs) were for two sites that required extensive supplemental investigation to characterize bedrock and gather data for site



specific risk assessment. Fourteen other sites in the Phase 2 ESA category had supplemental investigations conducted to further characterize and delineate contaminants. Excluding the two largest expenditures, the average cost of a site with Phase 2 supplemental investigations, excluding reclamation costs, was \$32k (ranging from \$7k to \$78k).

The remaining sites included in this category either have charges for lagging Phase 2 ESA reporting or had work that went on hold. The expenditures for these sites ranged from \$1.1k to \$10.7k.

Note that a few site assessments were conducted using the Tier 2 approach. This approach, which is in accordance with ESRD regulatory guidelines, is chosen for sites with large impacts in order to generate alternative remedial options that are protective of receptors. Using this approach, contaminant pathways and site specific receptors are identified. Based on the site information obtained during the Phase 2 ESAs, contaminant transport modeling is used to predict and assess the contaminant risk to the nearby human and/or ecological receptors (e.g. livestock, plants, aquatic life) and produce site-specific, risk-based guidelines. On most of the orphan sites, the contaminants of concern are elevated concentrations of salinity in the soil and groundwater from produced water.

Remediation category

The largest Site Reclamation expenditures were for sites in the Remediation category, with \$5,335k spent on 64 sites (compared to \$5,569k on 71 sites in the prior year). From Table 5, the average Remediation category expenditure was \$83k per site (compared to \$78k in the prior year and \$141k per site in 2011/12).

Site expenditures on five large remediation projects ranged from \$310k to \$711k for an average cost of \$471k per site, excluding reclamation expenditures (compared to \$409k average on five large sites in the prior year, excluding reclamation expenditures). These large remediation projects are being staged over two or more years due to the large volumes of impacted soil that require remediation. Closure was obtained on three of these large remediation projects this year.

Twenty-three other sites had remediation category expenditures ranging from \$27k to \$281k. Excluding the five very large projects and sites with only lagging reporting costs or modelling costs, the average remediation expenditure was \$91k per site (compared to \$109k in the prior year). The average remediation cost was slightly lower than the prior year because of the number of drilled and abandoned sites turned over by ESRD in recent years that require less remediation.



**Legal Oil & Gas Ltd. 00/14-29-052-25W4/0
Overburden Excavation, February 20, 2014**

1// Acheson-East Oil & Gas Co. Ltd. FA/05-07-051-25W4/0 (\$711k)

This facility site was selected as a priority because of its proximity to a water body and to residential acreages currently under development. Impacts were mainly salinity impacts from produced water and a flare pit, and there were some hydrocarbon and metal impacts as well. The remediation work conducted was a continuation of past years' work and was guided by site-specific remediation criteria. In total, 11,287 tonnes of impacted material was transported to a Class 2 landfill. The excavation was backfilled and compacted. Surface reclamation is planned for 2014. To enhance the revegetation of the river bank, hardwood cuttings of several species were planted on the upper slope of the bank.

2// Legal Oil & Gas Ltd. 00/14-29-052-25W4/0 (\$510k)

This site is considered a priority because of its location in the Transportation Utility Corridor (TUC) in the City of Edmonton and its position in a drainage restructuring project associated with the widening of the adjacent Anthony Henday highway. In addition, there is a residential area nearby. The site is a challenging work environment due to the multiple stakeholders involved, ongoing work by Alberta Transportation and the care required for trucks and equipment to enter and leave the site safely under busy traffic conditions. Site-specific criteria were developed and



partial excavations completed in 2010 and 2011. This year, remediation was completed by transporting 6,397 tonnes to a Class 2 landfill. The excavation was backfilled and compacted. Surface reclamation is planned for 2014.

3// Big Valley Energy Corporation FA/16-24-048-21W4/0 (\$502k)

This facility site was selected for remediation because of landowner concerns, the large surface footprint on cultivated land, and the length of time this site has been an orphan. The remediation work conducted was a continuation of past years' work. Activities included in this expenditure are the removal of groundwater monitoring wells, further delineation of boron impacts and updating the site-specific guidelines. Remediation activities included the removal of 6,192 tonnes of salinity, hydrocarbon, and boron impacted soil from the former flare pit area to a Class 2 landfill. The excavation was backfilled with imported clean fill obtained by enlarging a dugout in the same field. Surface reclamation is planned when remediation closure is confirmed.

4// Legacy Petroleum Ltd. 00/10-32-011-02W4/0 (\$324k)

This well site had predominantly salinity and boron impacts related to produced water from well site operations. Site-specific remediation guidelines were developed for this site. The footprint of the remedial excavation was minimized as this well site was situated on native grassland. A total of 3,780 tonnes of impacted material was transported to a Class 2 landfill and closure was achieved. The excavation was backfilled and compacted. Surface reclamation is planned for 2014.

5// Synco Exploration Inc. 00/14-14-097-20W5/0 (\$310k)

This remediation work was a continuation of work conducted last year. The site is located in a remote area, and is best accessed in the winter. Several miles of snowplowing was required to reach the start of the actual access road. The access had to be frozen in at several locations to allow for trucks and equipment to travel on the road. Salinity and hydrocarbon impacts existed at well centre, the former sump area and the former cement pit. Closure was achieved after transporting 1,226 tonnes of impacted material to a Class 2 landfill. Because of the forested land use, the remoteness of the lease, and the relatively shallow excavation depth it was possible to reclaim the site and remove the long access road in the same season after the remedial excavation. Reclamation of the site will be through natural recovery of the vegetation. The site will be monitored for weeds until the reclamation criteria is met.

In addition to the five large remediation projects, another remediation highlight was the remediation at



Prince Resources Corporation 00/14-36-076-09W5/0 (\$113k) which was completed in a manner that promotes environmental sustainability. For the remediation of a contaminated drilling waste disposal sump from the well drilling operations, the lead impacts in the soil were segregated in the drilling sump material, and removed to a landfill. The remaining hydrocarbon impacts in the soils were treated onsite and placed back into the remedial excavation after the soils met the Alberta soil remediation guidelines.



**Alberta Pinnacle Oil Company Ltd 00/04-09-034-20W4/0
Final cross seed of site parallel to hill for erosion control, July 25, 2013**

Major Reclamation category

Major Reclamation category expenditures totaled \$840k on 18 sites (compared to \$860k on 17 sites in the prior year). Site expenditures in the Major Reclamation category this year ranged from \$10k to \$105k. The average expenditure for sites in the Major Reclamation category was \$47k (compared to \$50k in the prior year and \$37k in 2011/12). Reclamation expenditures for many of the sites counted in this category were higher than for typical sites due to the remote location or the scope and the complexity of the required work.

There were expenditures on four very large reclamation projects that ranged from \$68k to \$105k with an average cost of \$81k per site (compared to an average cost of \$124k per site for three very large reclamation projects in the prior year). Excluding these four large reclamation projects, the other 14 sites had expenditures ranging from \$10k to \$56k with an average expenditure of \$34k per site (compared to \$38k in the prior year, excluding the large projects).



Major reclamation activities included surface re-contouring, re-establishment of drainage, reclamation of access roads, topsoil purchase and/or replacement, seeding, and planting trees. Note that six additional sites had major reclamation work conducted on them, but they are counted in the Remediation category because the expenditures on remediation activities were larger. Adding these sites gives a total of 24 sites that had major reclamation activities conducted on them (compared to 25 sites total in the prior year).

The following are highlights of Major Reclamation expenditures on the four largest projects. The projects are presented in order of decreasing magnitude of expenditure and list the defunct company, the location and the amount expended on each site.

1// Peace West Energy Corporation 00/7-24-073-10W5/0 (\$105k)

This site is located on Swan River First Nation reserve lands. The land type is forested peat land with an access road of several hundred meters that is best accessed in the winter. An unused pit on-site showed continual influx of groundwater and had to be pumped out repeatedly. Part of the work was done by a local contractor. The site was left for the vegetation to naturally recover. The weeds will be monitored until the reclamation criteria is met.

2// Alberta Pinnacle Oil Company Ltd. 00/04-09-034-20W4/0 (\$83k)

This site was constructed on top of a large hill. Large cut and fills had been used to construct a flat wellsite. To restore the natural contour and drainage, large amounts of fill had to be moved. The heavy clay soil was wet which made this a time-consuming process. After reclamation of the site and access road, the site was seeded to native grasses and it will be monitored for weeds and revegetation success.

3// Condor Resources Inc. 00/16-24-048-09W5/0 (\$70k) and

4// Condor Resources Inc. 00/10-24-048-09W5/0 (\$68k)

Access to these forested private owned sites had been impacted by a beaver colony that used more than 100 meters of the access road to the 16-24 site as the base for a dam, holding back a substantial pond. Beavers had also repeatedly plugged up a culvert under the access road to the 10-24 site causing both the access roads and off-site land to be continually flooded. Therefore, water management was the biggest challenge to this reclamation. After the dam and culvert were opened, the area was allowed to dry and then the 10-24 well site and both access roads were reclaimed (the 16-24 well site was reclaimed in 2013). One borrow pit was backfilled and another partially backfilled and partially deepened so it can function as a dugout as per the landowner's



request. Because the work was conducted under challenging conditions, it is expected that minor touch-up work will be required in 2014.

Minor Reclamation category

Minor Reclamation category expenditures totaled \$95k on ten sites (compared to \$15k on three sites in the prior year and \$85k on eight sites in 2011/12). Expenditures ranged from \$4k to \$21k with an average expenditure of \$9k per site (compared to an average of \$5k in the prior year and \$11k in 2011/12). Activities included repairing minor slumping, adding small amounts of topsoil, fencing, seeding, paratilling, and planting trees.

Monitoring category

Monitoring activities included vegetation monitoring, site inspections, weed control, and groundwater monitoring. Expenditures on some sites counted in this category also include small costs for lagging remediation reporting from the prior year. Monitoring category expenditures totaled \$241k on 135 sites (compared to \$204k on 143 sites in the prior year). The average cost per site in the Monitoring category was \$2k per site (compared to \$1k per site in the prior year).

Closure category

Closure activities included conducting soil, vegetation and landscape detailed site assessments, landowner consultation, preparing and submitting Reclamation Certificate applications, and dealing with inquiries from ESRD about applications. Some sites counted in this category also have expenditures for lagging remediation reporting from prior years. Closure category expenditures totaled \$423k on 112 sites with an average of \$4k per site (compared to \$363k on 78 sites with an average of \$5k per site in the prior year).

Note that seven additional sites had closure activities conducted but were counted in the Remediation category because more money was spent on lagging remediation reporting than closure. Including these seven sites, a total of 119 sites had closure activities conducted on them this year.



Canadian Rockies Petroleum Corporation 00/08-04-076-14W5/0

Well Abandonment

Well Abandonment expenditures in 2013/14 totaled \$3,462k (almost double that of prior year \$1,728k expenditures). This increase in expenditures is in response to the increase in the inventory of new orphan wells to be abandoned.

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 in well abandonment are described as follows:

- o **Zonal abandonment** –The oil or gas that is produced from a well comes from a specific interval inside the well or down hole. Zonal abandonment is the plugging of this production interval down hole in the well. This can be done with a bridge (mechanical) plug in a cased well or with a cement plug in an open hole well (a well that is not cased). When a bridge plug is set, it must be pressure tested to 7 MPa for 10 minutes, and then covered with 8 vertical or lineal meters of Class G cement on top. The casing is then filled with a non-corrosive fluid or a non-saline water before surface abandonment.



Canada West Resources Inc. 00/02-14-038-22W4/0

- **Remedial repairs** – If groundwater protection is required or if the well is leaking (typically gas), remedial repairs are required. Well leaks can be surface casing vent flows (normally gas leaking from the annular space between the production casing and the surface casing) or gas migration (normally gas leaking into the soil outside of the surface casing) from the rock formation below. A typical remedial repair, sometimes called an intervention, can involve perforating the casing and squeezing cement into the perforations. Note that for well abandonments, remedial repairs refer to downhole operations and for site reclamation, remedial work or remediation refers to dealing with contaminants in the soil or groundwater.

- **Groundwater protection** – The well logs are reviewed, or the well is logged 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 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 to be abandoned continued to increase. This year's increase is partially attributed to the process change that the AER implemented in July 2012 (see Page 2) and partially attributed to an increase in industry insolvencies. In total this year, the OWA received 80 new orphan wells, 55 pipeline segments, and 5 licensed facilities, which are licensed to 18 different licensees.

Orphan Well Inventory

As of March 31, 2013	74 wells
New wells received in fiscal year	80 wells
Completed well abandonments	- 18 wells
Long Term orphan wells*	26 wells
As of March 31, 2014	162 wells

*Long Term orphan wells

A new risk management tool used to review well abandonments and to set priorities was submitted to the AER and was implemented in 2012. This tool assesses the risk associated with each well according to four consequences: Health and Safety, Environmental, Regulatory Concerns and Stakeholder Concerns. These consequences are weighed against the technical difficulties associated with the remedial repair and abandonment of these wells. Using this tool, wells are either scheduled for abandonment, or scheduled for long term active monitoring or risk mitigation. The wells and sites which were reported under Care and Custody in prior annual reports are now included in the Long Term orphan well list.



Well Abandonment Count

The Well Abandonment Count of the number of orphan well abandonments counted to date is shown below in Figure 6 and Table 6. The well count is split into two; 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 OWA completed 18 well abandonments and the AER was reimbursed for 27 well abandonments this year.

Figure 6 – Well Abandonment Count

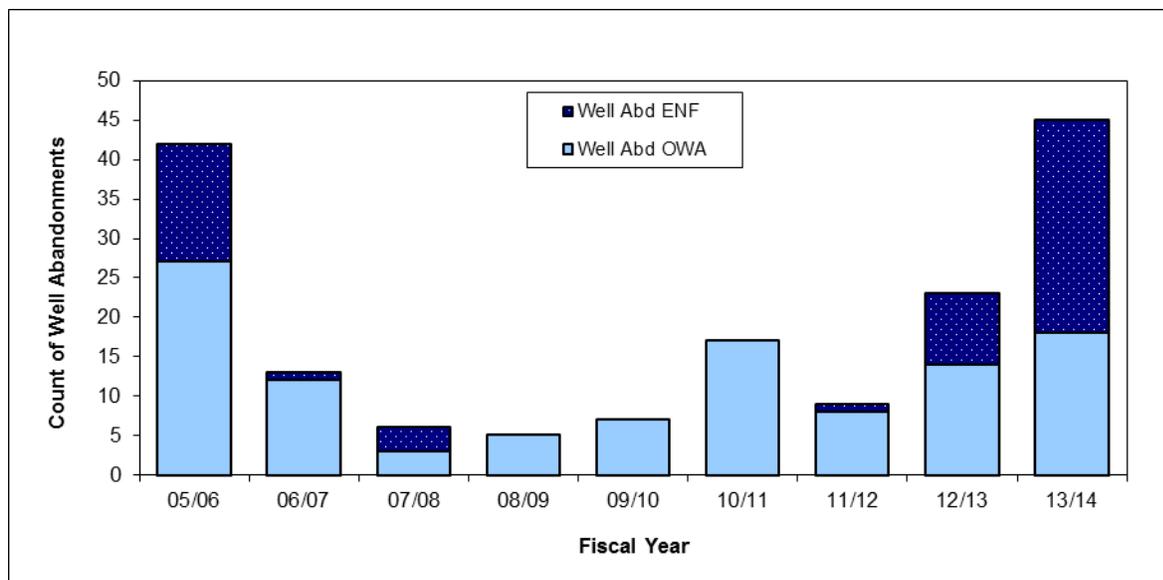


Table 6 – Well Abandonment Count

Fiscal Year (Apr 1 to Mar 31)	Prior Years											Total
		05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14		
Well Abd OWA	364	27	12	3	5	7	17	8	14	18	475	
Well Abd ENF	120	15	1	3	0	0	0	1	9	27	176	
Well Abd Count	484	42	13	6	5	7	17	9	23	45	651	



The terms used in Figure 6 and Table 6 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 these designated 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 designated as an orphan for abandonment and its well license was later transferred to an active company, it would be counted as handled.

Well Abd ENF

Wells in this category were abandoned by the AER, either as part of their activities on reluctant licensees or before 1997 as historical orphans with AER involvement. 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 the AER is dealing with a reluctant liable party, it can 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. This year, the Well Abd ENF count was for reimbursement to the AER for 27 well abandonments. See Financial Highlights, Expenditure Section Table 8 for further details on these reimbursements and on the well count.



Gpi Oil & Gas Inc. 00/05-12-049-06W4/0

Well Abandonment Highlights

Well operations were conducted on 25 wells this year and well abandonments were completed on 18 of these wells. The well operations are briefly summarized by the nine orphan licensees (or defaulting working interest participants) alphabetically below. Other expenditures were on inspections, well file review, programming, and monitoring. AER Directive 079 well locating and testing work was conducted on wells licensed to defunct companies in urban areas for the province as directed by the AER.

*1// Canada West Resources Incorporated
(Three well abandonments completed at \$109k average)*

Three orphan wells licensed to Canada West Resources Incorporated were abandoned in the Drumheller and Stettler areas. The Stettler area well was drilled in 1967 to a total depth or TD of 1894.6 mKB. This well was sour and had a tubing and packer downhole. The producing zone was abandoned with a bridge plug and cement. A cement bond log was run to determine groundwater protection and a cement squeeze was conducted to isolate base of groundwater. A bridge plug and cement were then set above uphole remedial perforations (done prior by Canada West) and the well was surface abandoned.

One Drumheller well was drilled in 2000 to a TD of 678.5 mKB. This well had no downhole concerns, i.e. no zonal isolation, groundwater protection, surface casing vent flow, gas migration or wellbore



integrity issues. This well was abandoned with a coiled tubing unit and then surface abandoned. The other Drumheller well was a horizontal well drilled in July 2007 to a TD of 1643 mKB. The horizontal section was abandoned with a bridge plug and cement circulated on top. A cement bond log was run and it was confirmed that there was adequate cement for zonal isolation and groundwater protection. The well was surface abandoned.

2// Canadian Rockies Petroleum Corp.

(Nine well operations, seven well abandonments completed at \$61k average)

Operations were conducted on nine wells licensed to Canadian Rockies Petroleum Corp. Seven of the wells were shallow wells in the Grande Prairie area and two were in the Worsley area. Most leases were in the forested area and were found to be heavily vegetated. The seven Grande Prairie wells were drilled between 2005 and 2007 to a TD between 553 to 873 mKB. The abandonments were routine and no unexpected problems were encountered. The AER well records were incomplete on some wells, so unexpected production perforations and downhole equipment were found. Most of the wells were found with downhole production equipment and they varied between having one, two or three producing zones. After zonal abandonments, all seven wells were surface abandoned.

The two winter access wells in the Worsley area were drilled on the same lease 28 m apart. Both wells had surface casing vent flow and soil gas migration issues. The first well was drilled in 2007 to a TD of 2253 mKB. Two production zones were abandoned with bridge plugs and cement. Cement bond and noise/temp logs were run for source identification. The lowest suspected source was perforated and a retainer cement squeeze was conducted. After the remedial repair, downhole problems required fishing operations and the rig was then moved off. The vent flow and gas migration will be monitored and further evaluated to plan the next remedial repair.

The second well in the Worsley area was drilled in 2008 to a TD of 1098 mKB. The three production zones were abandoned with bridge plugs and cement. The tubing was found severely scaled and corroded when pulled. Cement bond and noise/temp logs were run for source identification. The lowest suspected source was perforated and a retainer cement squeeze conducted. Vent flow remained and AER approval was obtained to conduct a second remedial repair at the next suspected source with a retainer squeeze. The vent flow was initially reduced during cementing but returned to original rates. The vent flow and gas migration will be monitored and further evaluated to plan the next remedial repair.



DHI Energy Inc. 00/16-20-044-15W4/0 Single well facility

3// DHI Energy Inc.

(Three well operations, one well abandonment completed at \$99k)

Operations were conducted on three wells licensed to DHI Energy Inc. One well in the Leduc area was drilled in 2003 to a TD of 872.8 mKB and was identified to have a surface casing vent flow. The well was zonal abandoned and cement bond and noise temp logs were run for source identification. Rig was moved off. The well will be monitored and further evaluated to plan the next remedial repair.

One well in the Warwick area was drilled in 1990 to a TD of 761.5 mKB. There was no surface casing vent flow observed on this well. The tubing above the packer was found parted due to corrosion and was fished out. The production zone was then abandoned with a bridge plug and cement. Prior to cutting and capping, pressure was observed on the production casing. Cut and cap operations were suspended and further downhole work will be required to identify the source and eliminate the surface pressure.

The second well in the Warwick area was drilled in 2003 to a TD of 872.8 mKB. The well had no downhole concerns and no problems were encountered. Tubing was pulled and the production zone was abandoned and the well was surface abandoned.



*4// Enquest Environmental Services Corp
(Two well abandonments completed at \$202k average)*

Both orphan wells licensed to Enquest Environmental Services Corp. were sweet horizontal wells drilled in the Innisfail area. One well was drilled in 2002 to a TD of 2064 mKB. A bridge plug was set above the horizontal leg; a cement bond log was run to confirm zonal isolation and base of groundwater coverage, and a cement plug was circulated above the bridge plug. The well was then surface abandoned.

The other well was drilled in 2000 to a TD of 2012.0 mKB. This well had a surface casing vent flow. A bridge plug was set above the horizontal section and cement bond and noise temp logs were run. Cement was dump bailed on the bridge plug and the suspected source was perforated. Circulation to surface was obtained but then lost during cementing operations. A cement bond log identified cement top below the base of groundwater and a second remedial repair was conducted for groundwater isolation. The vent flow was monitored and confirmed to be successfully repaired and the well was surface abandoned.

5// Frances Petroleums Limited 00/10-07-052-25W4/0 (\$17k)

This well was drilled in 1952 and is now located in a new subdivision in southwest Edmonton. There were very few records available for the well. There was no gas migration or leaks identified; however the well was not cut and capped 2 m below grade level in compliance with AER Directive 20. On the developer's request, the casing was lowered to 4.1 mKB to accommodate new grade levels for residential road construction and costs to lower the casing stub were shared with the developer.

*6// GPI Oil and Gas Inc
(Two well operations, one well abandonment completed at \$179k)*

Well operations were conducted on two sweet wells licensed to GPI Oil and Gas Inc. in the Wildmere area. Both wells were drilled in 2011 to a TD of 665 mKB. One well was identified to have a serious surface casing vent flow on initial inspection. The well was zonal abandoned with a bridge plug and cement, then a cement bond and CHAT/Noise-temp logs were run. The well was perforated at the first suspected source and a retainer cement squeeze was conducted. The vent flow persisted, and after AER approval, the second suspected source was perforated and a retainer cement squeeze was conducted. The vent flow was reduced to 4 bubbles per minute and the rig was moved off. The well will be monitored and further evaluated to plan the next remedial repair.

The second well was zonal abandoned, then cement bond and noise temp logs were run. The first suspected interval was perforated and feedrate could not be obtained. After non-routine AER approval was received to perforate above the surface casing shoe, a bradenhead squeeze was conducted and the vent flow was eliminated. The well was then surface abandoned.



Enquest Environmental Services Corp. 02/05-29-032-27W4/0

*7// Storm Cat Energy Corporation
(Three well operations, two abandonments completed at \$53k average)*

Well operations were conducted on three wells licensed to Storm Cat Energy Corporation. Two wells are located in the Wetaskiwin area and had no downhole concerns. They were zonal abandoned using coiled tubing and then surface abandoned. One well in the Redwater area was identified to have a surface casing vent flow. The well was zonal abandoned, then cement bond and noise temp logs were run. The carbon isotope analysis and logging results were inconclusive. The rig was moved and the collected data will be evaluated and remedial work will be planned at a later date.

8// Tenwell Gas & Oil Co. Ltd. 00/09-36-050-07W4/0 (\$225k)

This historic well was drilled in 1935 and abandoned in October 1942. The Town of Vermilion has expanded since then, so the well is now located in a residential subdivision. Gas migration was detected during testing as per AER Directive 79 well locating and testing work on wells licensed to defunct companies done for the province. Initial and subsequent regular monitoring indicates that the gas migration (higher concentrations of methane gas) is localized around the wellbore. An action



plan was submitted to the AER and a temporary soil gas management system was installed around the well to collect the soil gas and vent it to the atmosphere. The casing stub to the well was also excavated and extended to the surface and the area around the casing stub and the management system is secured with a fence. Engineering work is under way to evaluate the options of re-entering the wellbore and conducting remedial repairs and the installation of a soil gas management system around the well.

9// Vanguard Exploration Corp. 02/06-09-034-21W4/0 (\$27k)

The one orphan well licensed to Vanguard Exploration Corp was drilled in 2006 to a TD of 2090 mKB in the Rumsey area. This well was zonal abandoned with a coil tubing unit and surface abandoned with no issues.

Other Well Activities

Well inspections, file reviews, preliminary abandonment programs, and developing cost estimates were done on almost two thirds of the 80 new orphan wells received during the year as resources and time constraints allowed. A number of the wells went on and off hold during the year as interest by active parties was expressed to the AER in potential Regulator Directed Transfers (i.e. potential orphan well license transfers to active companies). Two additional wells were added to the list of Long Term orphan wells bringing the total count to 26.

AER Directive 079 Urban Well Locating and Testing (\$190k)

In September 2012, the AER released *Directive 079: Surface Development in Proximity to Abandoned Wells* which established new requirements for licensees to locate and test abandoned wells near existing and proposed developments. In consultation with Alberta Energy, the AER and industry, it was recognized that for public assurance it was important to locate and test abandoned wells licensed to defunct companies which are not yet designated as orphans. The AER gave direction to the OWA to conduct Directive 079 well locating and testing on historical abandoned wells licensed to defunct companies in urban areas and assigned 103 wells for the OWA to locate and test before July 31, 2013.

Alberta Energy contributed to the OWA efforts by providing support for communications with property owners and made an additional contribution towards funding this non-orphan work in the prior year of \$50,000 in grant funding. Well file reviews were conducted and air photo data were reviewed to prepare for the well locating and testing. A significant effort was also put into developing a communication plan to notify and meet with property owners. The OWA contacted municipalities and landowners through registered letters, emails and phone calls, and the wells were located and tested for almost all of the



D079 historical abandoned wells licensed to defunct companies in June and July 2013. The AER reporting was submitted as required before July 31, 2013.

From the original list of 103 wells given to the OWA, 99 wells in total were tested. Three wells were not tested because the property owners could not be reached for permission for access, and one well was not tested because the landowners refused access to the OWA. One well licensed to Tenwell Gas & Oil Co. Ltd. 00/09-36-050-07W4W4/0 was identified to have gas migration located in the Town of Vermilion in a residential subdivision. A second well which was D079 tested by Alta Gas Utilities Inc., was identified to have gas migration in the Town of Bonnyville on an acreage. The AER corrected the licensee of the well 02/12-17-061-05W4/0 to the defunct company Trican Petro-Chemical Corporation, NPL and then designated the well as an orphan. Total expenditures on the Directive 079 work including file review, communications, locating, testing and reporting was \$190k.

Facility Decommissioning (\$134k)

In 2013/14, facility decommissioning expenditures were \$134k (compared to \$28k in the prior year). The largest expenditure was \$108k for the decommissioning of a sour oil facility licensed to Slate Energy Inc 06-34-055-24W4 that required additional costs for safety, cleaning and disposal. A single well tank facility and pump jack were removed from a Canada West Resources Inc. well 02/08-21-031-18W4/0 in central Alberta for \$14k. The remaining expenditures were for facility inspections and planning. Five additional facilities were turned over to the OWA in 2013/14 for a total of 13 in inventory to be decommissioned.

Pipeline Abandonment (\$91k)

In 2013/14, pipeline abandonments were put on a lower priority to well abandonments because of limited budget. The average pipeline abandonment cost was \$8k for ten pipeline segments (compared to \$194k in expenditures on nine pipeline segments in the prior year). This excludes costs for inspection and planning on the other pipeline segments in the orphan inventory not abandoned this year. Four pipeline segments in sour oil service at a Slate Energy Inc. facility were abandoned for an average cost of \$14k, and six previously abandoned pipeline segments were cut back to facilitate site reclamation work for an average cost of \$4k. By year end, an additional 55 line segments were turned over to the OWA for a total of 121 pipeline segments in inventory to be abandoned.



FINANCIAL HIGHLIGHTS

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

Revenues (\$16,601k)

Orphan Fund Levy (\$15,242k)

The AER collects the Orphan Fund levy from the upstream oil and gas industry on an annual basis. In 2013/14, the OWA received \$15,242k from the AER for the Orphan Fund levy (25% increase compared to \$12,151k in prior year). Each fall, the OWA prepares a budget and three year business plan for the next fiscal year and the industry members (CAPP and EPAC) approve the OWA budget and the amount of the Orphan Fund levy. This year, the OWA requested an increase in funding from industry to address the increasing inventory of new orphans. After receiving approval from industry, the OWA then requested the AER to levy industry \$15,000k to fund its operations for the upcoming fiscal year. The OWA receives more monies than the levy amount invoiced by the AER because the AER invoices a 20% penalty to companies for late payments. All levy monies collected by the AER including any penalties are remitted to the OWA.

First Time Licensee Fees and Regulator Directed Transfer Fees (\$930k)

First Time Licensee Fee is a \$10,000 fee which is required by the AER as part of the approval process of applications from new licensees which 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 \$500k was received through the AER in First Time Licensee Fees this year i.e. the AER granted the approval of 50 applications for First Time Licensees (35% decrease compared to \$770k prior year).

Regulator Directed Transfer Fee is a \$10,000 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. A total of \$430k was received through the AER in Regulator Directed Transfer Fees or RDT Fees this year (438% increase compared to \$80k prior year). Note that none of the RDT Fees received in this year were for wells or facilities which were already designated as orphans, so there is no count taken for closure for any wells that were RDT transferred in Table 6 Well Abandonment Count.



Investment (\$172k)

A total of \$172k was received in bank account interest and investment income from short-term investments (4.7% increase compared to \$164k 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 remained steady compared to the prior year as the total funds held this year were similar to those held in the prior year.

Enforcement Recoveries and Licensee Liability Rating Recoveries (\$223k)

This year, \$223k was received from the AER (11% increase compared to \$201 in prior year). All of the funds received were from successful enforcement action by the AER (\$223k) and none of the funds received were from Licensee Liability Rating security deposits (\$0k).

Enforcement Recoveries are received when the AER successfully recovers monies from a responsible party for enforcement activity conducted on deemed orphan wells, pipelines or facilities. The OWA has the ability to request security deposits held by the AER for the defunct company after it demonstrates to the AER that it has orphan expenditures on abandonment or reclamation that meet or exceed the amount of the security deposit. See Table 7 – Enforcement Recoveries below for the amounts of security deposits which were recovered for Licensees which were either defunct or insolvent.

Table 7 – Enforcement Recoveries

Defunct or Insolvent Licensee	Amount of Recovery
Condor Resources Inc	\$ 207,507.47
BRO Resources Ltd (Canadian Quantum)	\$ 13,725.36
Jaycor Resources Ltd	\$ 1,700.00
Total	\$ 222,932.83

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 deemed orphan, the AER turns the LLR deposit over to the OWA. The OWA is required to spend the amount held on deposit by the AER on behalf of the defunct company for abandonment and/or reclamation before applying to receive the LLR deposit.

Salvage Sales (\$34k)

Salvage sales of \$34k were received this year (compared to \$2k in prior year). The monies were received for the sale of three pump jacks and other miscellaneous equipment.



Expenditures (\$14,927k)

Expenditures are comprised of Operating Expenditures and Other Expenditures. Total Expenditures in 2013/14 were \$14,927k (17% increase compared to \$12,791 in prior year).

OPERATING EXPENDITURES (\$12,650k)

The Operating Expenditures (\$12,650) were increased (18% increase compared to \$10,683k in prior year). See previous Operating Highlights section for information on Site Reclamation, Well Abandonment, Pipeline Abandonment, and Facility Decommissioning Expenditures.

OTHER EXPENDITURES (\$2,277k)

Other Expenditures are comprised of reimbursements to the AER for Enforcement Activities, Fund Administration, and reimbursements to industry for Working Interest Claims. These expenditures continue to be high this year (8% increase compared to \$2,108k in prior year) due to a continued increase in the AER requesting reimbursements for enforcement activities.

AER Enforcement Activities (\$1,270k)

This year, the OWA reimbursed the AER \$1,270k for Enforcement Activities (4% increase compared to \$1,222k in prior year). This reflects changes in AER processes in 2012 which resulted in the turning over of enforcement files more quickly to the OWA. See Table 8 - AER Enforcement Activities Reimbursements below for reimbursement details.

AER Enforcement Activities are amounts reimbursed to the AER for third party abandonment expenditures on properties (wells, pipelines and facilities) incurred by the AER during their enforcement actions. Reasonable attempts are made by the AER to have responsible parties abandon their oil and gas properties. Once it is determined that no responsible parties exist, cannot be located, or do not have the financial means to contribute to those costs as per s.70(2)(b)(iii) of the *Oil and Gas Conservation Act*, the AER can deem the licensee as a defaulting working interest participant (WIP) and designate the specific property as an orphan. If a property is designated an orphan prior to its abandonment, the OWA conducts the abandonment and reclamation. If a property is designated an orphan after the abandonment work is conducted by the AER as part of its enforcement activities, the OWA will reimburse the AER for monies spent on the abandonment work, partial or complete, when the defunct licensee has been deemed a defaulting WIP and the property designated as an orphan.



Table 8 - AER Enforcement Activities Reimbursements

Defunct or Insolvent Licensee	Location* Description	% WIP	Amount of Reimbursement (\$)
Arbour Energy Inc	00/10-11-033-10W4/0 Abandonment	100%	27,381.36
Arbour Energy Inc	00/16-11-033-10W4/0 Abandonment	100%	14,342.83
Arbour Energy Inc	00/06-32-028-03W5/0 Abandonment	100%	244,207.38
Arbour Energy Inc	16-11-033-10W4 Facility Decommission	100%	14,719.59
Arbour Energy Inc	P45071 - 2 segments Pipeline Abandonment	100%	11,059.60
Savant Energy Ltd	00/14-06-052-06W4/0 Abandonment	100%	41,433.77
Savant Energy Ltd	00/14-07-052-06W4/0 Abandonment	100%	219,879.38
Savant Energy Ltd	00/06-08-052-06W4/0 Abandonment	100%	32,716.56
Savant Energy Ltd	P20506 – 6 segments Pipeline Abandonment	100%	115,865.34
Sarg Oils Ltd	00/14-25-045-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/03-36-045-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/04-36-045-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/05-36-045-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/06-36-045-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/10-11-046-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/16-15-046-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/01-22-046-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/04-23-046-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/16-16-047-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/01-21-047-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/02-21-047-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/07-21-047-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/08-21-047-20W4/0 Abandonment	100%	18,937.73
Sarg Oils Ltd	00/09-21-047-20W4/0 Abandonment	100%	18,937.73
Saamis Oil & Gas Ltd	00/16-25-012-02W4/0 Abandonment	100%	46,189.20
Saphonyx Energy Inc	00/06-12-026-03W4/0 Abandonment	100%	25,777.38
Saphonyx Energy Inc	00/07-12-026-03W4/0 Abandonment	100%	30,274.54
Saphonyx Energy Inc	00/09-12-026-03W4/0 Abandonment	100%	47,067.50
Saphonyx Energy Inc	00/12-12-026-03W4/0 Abandonment	100%	10,884.20
Saphonyx Energy Inc	00/14-12-026-03W4/0 Abandonment	100%	47,621.28
Saphonyx Energy Inc	P39947/P47184 – 5 segments Pipeline Aband.	100%	56,673.29
Enerhance Resources Inc	Cost Recovery	100%	243.58
Total			1,270,402.73

* Location Description

- Abandonment = reimbursement for a well abandonment completed with surface abandonment
- Cost Recovery = reimbursement for abandonment activities towards a well abandonment, for example, an inspection.

This year, the OWA reimbursed the AER for the completed well abandonments of 27 wells, 13 pipeline segments and one facility. The well abandonments are counted in Table 6 – Well Abandonment Count under *Well Abd ENF* in the year the reimbursement was paid, not in the year of surface abandonment.



Fund Administration (\$607k)

Fund Administration expenditures of \$607k are for building lease rentals, insurance, legal, accounting, management and clerical services (increased 18% from \$516k prior year). The increase this year is attributed to additional clerical services needed to set up new orphan files and to an increase in management and clerical fees. Note that the OWA Directors do not receive any remuneration for their voluntary service on the OWA Board of Directors.

Working Interest Claims (\$400k)

This year, the AER approved and then the OWA reviewed and reimbursed working interest claims from industry of \$400k (9% increase compared to \$370k in prior year). See Table 9 - 2013/14 Working Interest Claims below for details.

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 AER on the site.

The AER reviews Working Interest Claims and determines that the claims are for a defunct 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 for all expenditures and salvage credits before claims are reimbursed. GST is reimbursed and administration and overhead expenses 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 relevant supporting documentation in the claim has been provided, the OWA can proceed with payment directly to the company who made the Working Interest Claim and then notify the AER of payment.

Table 9 - 2013/14 Working Interest Claims

Defunct Licensee	Working Interest Partner	Location Type of Claim	% WIP	WI Claim Amount (\$)
XGen Ventures Inc	Harvest Operations Corp	00/08-20-085-06W6 Abandonment	97.8140%	\$310,618.23
XGen Ventures Inc	Harvest Operations Corp	00/08-21-085-06W6 Abandonment	97.8140%	61,523.28
Pacoota Oil Limited	Enerplus Corporation	00/10-28-058-20W4 Reclamation	50.0000%	7,281.40
Canadian Pencrown Resources Limited	Enerplus Corporation	00/10-33-036-08W4 Reclamation	33.3330%	4,080.51
Canadian Pencrown Resources Limited	Enerplus Corporation	00/16-17-037-04W4 Reclamation	6.2500%	1,378.12
Canadian Pencrown Resources Limited	Enerplus Corporation	00/14-30-037-04W4 Reclamation	6.2500%	1,521.36
Canadian Pencrown Resources Limited	Enerplus Corporation	00/12-24-089-04W5 Reclamation	7.2800%	1,450.06
Target Carbons 16 Inc	Enerplus Corporation	00/08-21-058-21W4 Reclamation	12.5000%	3,107.05
Target Carbons 16 Inc	Enerplus Corporation	00/06-28-058-21W4 Reclamation	25.0000%	6,619.61
Target Carbons 16 Inc	Enerplus Corporation	00/09-32-058-21W4 Reclamation	12.5000%	944.03
Target Carbons 16 Inc	Enerplus Corporation	00/03-03-059-21W4 Reclamation	12.5000%	1,009.33
Target Carbons 16 Inc	Enerplus Corporation	00/14-03-059-21W4 Reclamation	12.5000%	824.25
Total				\$400,357.23

**ALBERTA OIL AND GAS ORPHAN ABANDONMENT
AND RECLAMATION ASSOCIATION**

Financial Statements

March 31, 2014

Independent Auditor's Report

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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, 2014, 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.

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, 2014, 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 19, 2014

Grant Thornton LLP

Chartered Accountants

ALBERTA OIL AND GAS ORPHAN ABANDONMENT AND RECLAMATION ASSOCIATION**Statement of Financial Position**

As at March 31, 2014

(thousands of dollars)

	2014	2013
Assets		
Current assets		
Cash	\$ 8,269	\$ 9,031
Accounts receivable from the AER	10,750	9,022
GST receivable	212	211
Prepaid expense and other receivables	132	126
	\$ 19,363	\$ 18,390
Liabilities and net assets		
Current liabilities		
Accounts payable and accrued liabilities	\$ 712	\$ 1,413
Net assets	18,651	16,977
	\$ 19,363	\$ 18,390

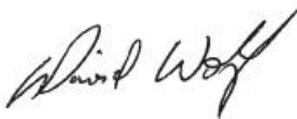
Commitment (Note 8)

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, 2014

(thousands of dollars)

	2014	2013
Revenues		
Orphan fund levy through the AER	\$ 15,242	\$ 12,151
First time licensee fees and regulatory directed transfer fees through the AER	930	850
Enforcement recoveries and licensee liability rating recoveries through the AER	223	201
Interest income	172	164
Salvage sales	34	2
Alberta Energy government grant	-	50
	16,601	13,418
Expenditures		
Operating		
Site reclamation	8,963	8,733
Well abandonment	3,462	1,728
Facility decommissioning	134	28
Pipeline abandonment	91	194
	12,650	10,683
Other		
AER enforcement activities (Note 4)	1,270	1,222
Fund administration (Note 5)	607	516
Working interest claims (Note 6)	400	370
	2,277	2,108
	14,927	12,791
Excess of revenues over expenditures	\$ 1,674	\$ 627

See accompanying notes to financial statements.

ALBERTA OIL AND GAS ORPHAN ABANDONMENT AND RECLAMATION ASSOCIATION**Statement of Cash Flows**

Year ended March 31, 2014

(thousands of dollars)

	2014	2013
Cash provided by (used in)		
Operations		
Excess of revenues over expenditures	\$ 1,674	\$ 627
Changes in operating non-cash working capital		
(Increase) decrease in accounts receivable from the AER	(1,728)	237
Increase in GST receivable	(1)	(58)
Increase in prepaid expense and other receivables	(6)	(89)
(Decrease) increase in accounts payable and accrued liabilities	(701)	804
	(762)	1,521
Net (decrease) increase in cash	(762)	1,521
Cash, beginning of year	9,031	7,510
Cash, end of year	\$ 8,269	\$ 9,031

During the year, the Association received interest of \$175 (2013 - \$161).

See accompanying notes to financial statements.

ALBERTA OIL AND GAS ORPHAN ABANDONMENT AND RECLAMATION ASSOCIATION**Statement of Changes in Net Assets**

March 31, 2014

(thousands of dollars)

	2014	2013
Balance, beginning of year	\$ 16,977	\$ 16,350
Excess of revenues over expenditures	1,674	627
Balance of unrestricted net assets, end of year	\$ 18,651	\$ 16,977

See accompanying notes to financial statements.

ALBERTA OIL AND GAS ORPHAN ABANDONMENT AND RECLAMATION ASSOCIATION

Notes to the Financial Statements

March 31, 2014

(thousands of dollars)

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) (formerly known as the Alberta Energy Resources Conservation Board) 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).

With respect to financial assets measured at amortized cost, the Association assesses whether there are any indications of impairment. When there is an indication of impairment, and if the Association determines that during the year there was a significant adverse change in the expected timing or amount of future cash flows from the financial asset, it will then recognize a reduction as an impairment

ALBERTA OIL AND GAS ORPHAN ABANDONMENT AND RECLAMATION ASSOCIATION

Notes to the Financial Statements

March 31, 2014

(thousands of dollars)

loss in operations. The reversal of a previously recognized impairment loss on a financial asset measured at amortized cost is recognized in operations in the year the reversal occurs.

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.

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. The OWA also received a one time grant from Alberta Energy of \$50 in 2013 to locate and test abandoned oil and gas wells in urban areas licensed to defunct licensees.

Note 4 AER enforcement activities

AER enforcement activities expenditures 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 expenditures.

Note 5 Fund administration

Fund administration includes contract payments to management of \$296 (2013 - \$230). No remuneration and benefit payments were made to Board members for 2014 and 2013.

Note 6 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

ALBERTA OIL AND GAS ORPHAN ABANDONMENT AND RECLAMATION ASSOCIATION

Notes to the Financial Statements

March 31, 2014

(thousands of dollars)

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 7 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, 2014 are as follows:

	Total	2015	2016	2017	2018	Thereafter
Accounts payable and accrued liabilities	\$ 712	\$ 712	\$ -	\$ -	\$ -	\$ -

Note 8 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	2015	2016	2017	2018	2019-2030
Contracted payments	\$ 1,072	\$ 55	\$ 57	\$ 62	\$ 63	\$ 835