# COAL ASSESSMENT REPORT TITLE PAGE AND SUMMARY

| | |
|---|---|
| **TITLE OF REPORT:** | Report Submitted to the Ministry of Energy & Mines to Satisfy Section 8(1) Requirements of the Coal Act Regarding Telkwa Property Coal License(s): **327834, 327836-327846, 327856, 327864-327866, 327936, 327944-327946, 327949, 327951-327954, 327963-327965, 328672** |
| **TOTAL COST:** | $0 (no work performed in 2014 due to acquisition of license holder Carbon Development Corporation by Altius Minerals Corporation in April 2014. Since acquisition was at end of Q2-2014, there was insufficient time to evaluate information received on existing licenses in order to plan and execute any exploration programs. |
| **AUTHOR(S):** | Rod Churchill, M.Sc., Lands Manager, Carbon Development Corporation |
| **SIGNATURE(S):** |  |
| **NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):** | Not applicable; No permits applied for |

| | |
|---|---|
| **DATE SUBMITTED:** | October 25, 2014 |
| **YEAR OF WORK:** | 2014 |
| **PROPERTY NAME:** | Telkwa |
| **COAL LICENSE(S) AND/OR LEASES ON WHICH PHYSICAL WORK WAS DONE:** | No physical work performed. |

| | |
|---|---|
| **MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:** | 09311 Col1 |
| **MINING DIVISION:** | Omineca |
| **NTS / BCGS:** | 093L11A, 093L11B, 093L11G, 093L11H, 093L11I, 093L11J |
| **LATITUDE:** | 54° 37’ 38" *(at centre of work)* |
| **LONGITUDE:** | 127° 09’ 39" *(at centre of work)* |
| **UTM Zone:** 9N **EASTING:** 618,725 **NORTHING:** 6,054,861 | |

| | |
|---|---|
| **OWNER(S):** | Carbon Development Corporation |
| **MAILING ADDRESS:** | P.O. Box 8263, Station A, St. John’s, NL, A1B 3N4, CANADA \| Tel: 709-579-8290 |
| **OPERATOR(S)** *(who paid for the work):* | Not applicable |
| **MAILING ADDRESS:** | Not applicable |

| **REPORT KEYWORDS**<br>*(lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude - do not use abbreviations or codes)* |
|---|
| coal, claystone, siltstone, sandstone, conglomerate, minor tuff, lava beds, Lower-Upper Cretaceous, Skeena Group, Telkwa Basin, Goathorn Creek, Pine Creek, Cabinet Creek, Telkwa North-Avelling Hill, Tenas Creek, in-situ ~125 million tonnes, past-producer, Manalta, Luscar, Bulkley Valley Coal Limited, Carbon Development Corporation |

| **REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:** |
|---|
| Not Applicable |

## SUMMARY OF TYPES OF WORK IN THIS REPORT

| **GEOLOGICAL (scale, area)**<br>*Work to Report:* ☐ *Yes* ☒ *No* | | **EXTENT OF WORK (in metric units)** | **ON WHICH TENURES** |
|---|---|---|---|
| | Ground, mapping | | |
| | Photo interpretation | | |

| **GEOPHYSICAL (line-kilometres)**<br>*Work to Report:* ☐ *Yes* ☒ *No* | | **EXTENT OF WORK (in metric units)** | **ON WHICH TENURES** |
|---|---|---|---|
| | Ground (Specify types) | | |
| | Airborne(Specify types) | | |
| | Borehole | | |
| | Gamma, Resistivity, | | |
| | Resistivity | | |
| | Caliper | | |
| | Deviation | | |
| | Dip | | |
| | Others (specify) | | |
| | Core | | |
| | Non-core | | |

| **SAMPLING AND ANALYSES**<br>*Work to Report:* ☐ *Yes* ☒ *No* | | **EXTENT OF WORK (in metric units)** | **ON WHICH TENURES** |
|---|---|---|---|
| Total Number of Samples | | | |
| | Proximate | | |
| | Ultimate | | |
| | Petrographic | | |
| | Vitrinite reflectance | | |
| | Coking | | |
| | Wash tests | | |

| **PROSPECTING (scale/area)**<br>*Work to Report:* ☐ *Yes* ☒ *No* | **EXTENT OF WORK (in metric units)** | **ON WHICH TENURES** |
|---|---|---|
| Preparatory/Physical | | |
| Line/grid (km) | | |
| Trench (number, metres) | | |
| Bulk sample(s) | | |

**REPORT SUBMITTED TO THE MINISTRY OF ENERGY & MINES TO SATISFY SECTION 8(1) REQUIREMENTS OF THE COAL ACT**

**Regarding Telkwa Property Coal License(s):**
327834, 327836-327846, 327856,
327864-327866, 327936, 327944-327946
327949, 327951-327954, 327963-327965
328672

**Submitted On Behalf Of:**
Carbon Development Corporation ("CDC")
Suite 202, 66 Kenmount Road
St. John's, NL, A1B 3V7
Tel: 709-579-8290

**Submitted By:**
Rod Churchill, M.Sc.
Lands Manager

**October 27, 2014**

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# 1.0 INTRODUCTION

## 1.1 General

This report has been prepared to apprise the Minister of activities ongoing at the Telkwa Coal Project in east-central British Columbia.

On 2014-Apr-28, Altius Minerals Corporation ("Altius") of St. John's, NL closed the acquisition of a portfolio of 11 producing coal and potash royalties from Prairie Mines & Royalty Ltd. ("Prairie Royalties"), wholly-owned subsidiary of Sherritt International Corporation ("Sherritt"). Altius also acquired 100% ownership of Sherritt's Carbon Development Partnership ("CDP"). CDP's wholly owned company Carbon Development Corporation ("CDC") holds coal licenses on behalf of CDP including those located in the Telkwa Area.

## 1.2 Location & Access

The Telkwa coal license group ("Property") is located approximately 2 km southwest of the community of Telkwa and 15 km south of Smithers which is the large community in this area and which has daily air service. Smithers is ~380 km by rail from Prince Rupert and the Ridley coal handling terminal.

The Property is bisected by the northeast flowing Telkwa River. An all-weather-road originating from Smithers provides access to the north half of the Property and a second all-weather-road originating from Telkwa provides access to the south half of the Property. Numerous logging roads and ATV trails turn from the all-weather-roads providing access to more remote sections of the Property.

# 2.0 MINERAL TENURE

The Property is comprised of 41 Crown Coal Licenses and 5 Freehold titles containing 11,693 hectares. Twenty-nine (29) licenses are issued to CDC and comprise a total of 7,284 hectares. In addition to the coal licenses, CDC also holds 1,301 hectares under five (5) Freehold coal titles. Augmenting the land position are an additional twelve (12) coal licenses issued to Bulkley Valley Coal Limited ("BVCL") comprising 3,108 hectares. CDC has an agreement with BVCL whereby CDC pays BVCL a $2.00 per acre pre-production royalty annually in exchange for the right to explore and develop coal resources upon those coal licenses. The pre-production royalty amounts to a $15,360 payment each year by CDC to BVCL. This agreement is renewable every 5 years with the current agreement expiring on May 31, 2015.

As per the Coal Act and Regulations, annual rentals are due for each coal license based on the number of hectares contained within the coal license and the number of years that the coal license has been issued. Accordingly, this report was prepared to accompany payment of the annual rental costs for coal licenses 327834, 327836-327846, 327856, 327864-327866, 327936, 327944-327946, 327949, 327951-327954, 327963-327965 and 328672 – all of which have due date of December 31, 2014. These licenses are all deemed to be in their 28$^{th}$ year of issuance meaning that the annual rental is $30 per hectare. Since the licenses encompass a total of 7,382 hectares, the annual rental amount due is $221,460.

Figure 1 provides a map of the Property showing the distribution of mineral lands. Table 1, provides a listing of mineral licenses and freehold titles that comprise the Property as well as the annual rentals required for each coal license during the 2014 calendar year.

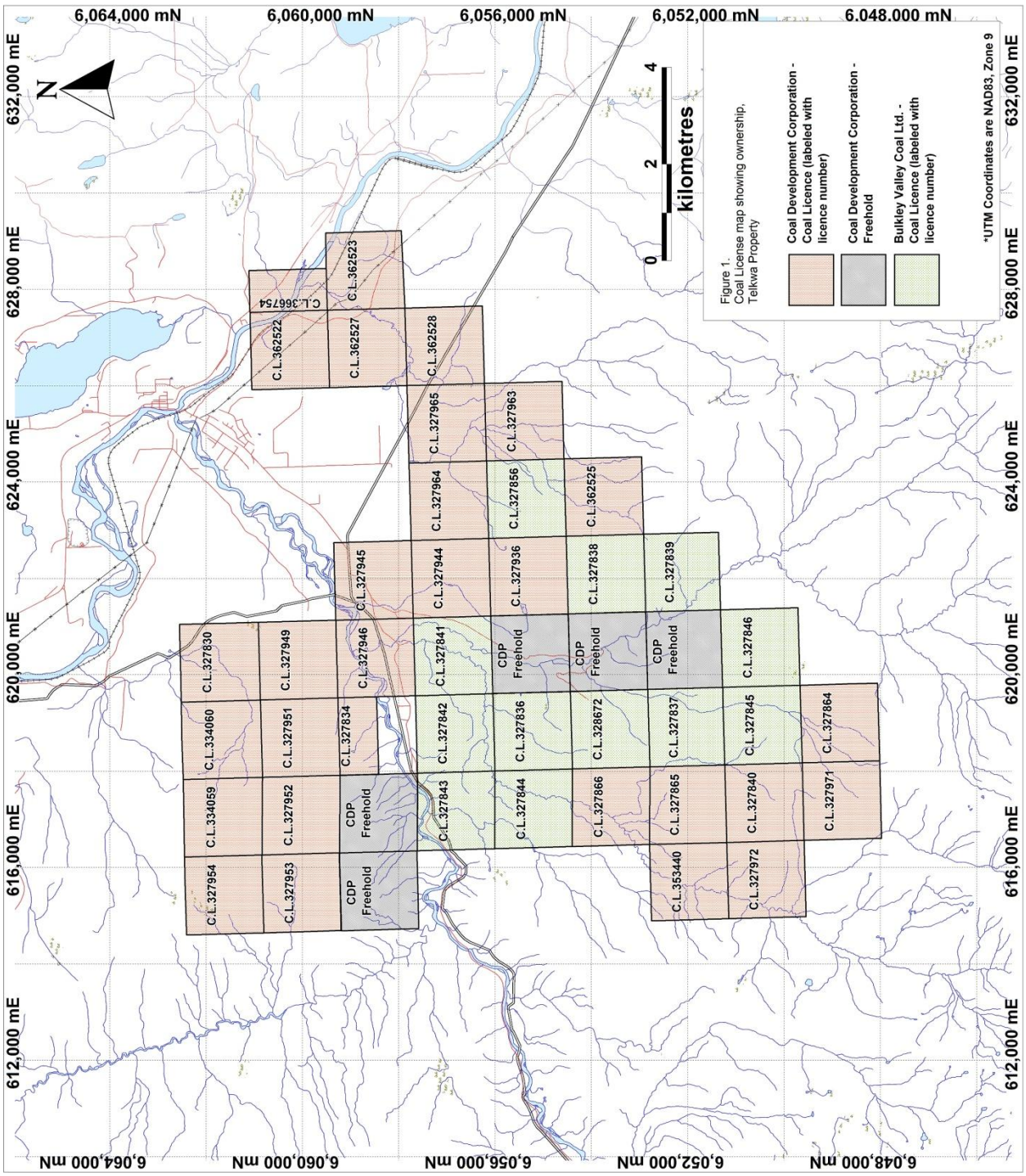
6,064,000 mN
6,060,000 mN
6,056,000 mN
6,052,000 mN
6.048.000 mN
632,000 mE
628,000 mE
624,000 mE
620,000 mE
616,000 mE
612,000 mE
6,064,000 mN
6,060,000 mN
6,056,000 mN
6,052,000 mN
6,048,000 mN
N
0
2
4
kilometres
Figure 1.
Coal License map showing ownership,
Telkwa Property
Coal Development Corporation - Coal Licence (labeled with licence number)
Coal Development Corporation - Freehold
Bulkley Valley Coal Ltd. - Coal Licence (labeled with licence number)
*UTM Coordinates are NAD83, Zone 9
C.L.366754
C.L.362522
C.L.362523
C.L.362527
C.L.362528
C.L.327965
C.L.327963
C.L.327964
C.L.327856
C.L.362525
C.L.327945
C.L.327944
C.L.327936
C.L.327838
C.L.327839
C.L.327830
C.L.327949
C.L.327946
C.L.327841
CDP Freehold
CDP Freehold
CDP Freehold
C.L.327846
C.L.334060
C.L.327951
C.L.327834
C.L.327842
C.L.327836
C.L.328672
C.L.327837
C.L.327845
C.L.327864
C.L.334059
C.L.327952
CDP Freehold
C.L.327843
C.L.327844
C.L.327866
C.L.327865
C.L.327840
C.L.327971
C.L.327954
C.L.327953
CDP Freehold
C.L.353440
C.L.327972

Table 1. Mineral Land Holdings, Telkwa Property

| Tenure No. | Tenure Type | Title Holder | Application Date | Good to Date | Years Since Issue | Tenure Hectares | Annual Rental Due |
|---|---|---|---|---|---|---|---|
| DL 230 | Freehold | CDC | --- | --- | --- | 259 | $ - |
| DL 237 | Freehold | CDC | --- | --- | --- | 259 | $ - |
| DL 389 | Freehold | CDC | --- | --- | --- | 262 | $ - |
| DL 391 | Freehold | CDC | --- | --- | --- | 262 | $ - |
| DL 401 | Freehold | CDC | --- | --- | --- | 259 | $ - |
| 353440 | Coal License | CDC | 2/6/1997 | 2/6/2014 | 17 | 259 | $ 5,180.00 |
| 334059 | Coal License | CDC | 3/1/1995 | 3/1/2014 | 19 | 269 | $ 5,380.00 |
| 334060 | Coal License | CDC | 3/1/1995 | 3/1/2014 | 19 | 269 | $ 5,380.00 |
| 362522 | Coal License | CDC | 5/12/1998 | 5/12/2014 | 16 | 259 | $ 5,180.00 |
| 362523 | Coal License | CDC | 5/12/1998 | 5/12/2014 | 16 | 259 | $ 5,180.00 |
| 362525 | Coal License | CDC | 5/12/1998 | 5/12/2014 | 16 | 259 | $ 5,180.00 |
| 362527 | Coal License | CDC | 5/12/1998 | 5/12/2014 | 16 | 259 | $ 5,180.00 |
| 362528 | Coal License | CDC | 5/12/1998 | 5/12/2014 | 16 | 259 | $ 5,180.00 |
| 327830 | Coal License | CDC | 5/30/1986 | 5/12/2014 | 28 | 260 | $ 7,800.00 |
| 327971 | Coal License | CDC | 7/30/1990 | 7/30/2014 | 24 | 259 | $ 6,475.00 |
| 327972 | Coal License | CDC | 7/30/1990 | 7/30/2014 | 24 | 259 | $ 6,475.00 |
| 366754 | Coal License | CDC | 11/5/1998 | 11/5/2014 | 16 | 140 | $ 2,800.00 |
| 327836 | Coal License | BVCL | 9/20/1977 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327837 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327838 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327839 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327841 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327842 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327843 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327844 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327845 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327846 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327856 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 328672 | Coal License | BVCL | 9/20/1977 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327834 | Coal License | CDC | 6/24/1980 | 12/31/2014 | 28 | 130 | $ 3,900.00 |
| 327840 | Coal License | CDC | 2/1/1980 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327864 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327865 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327866 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327936 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327944 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327945 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327946 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327949 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327951 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327952 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327953 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327954 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327963 | Coal License | CDC | 10/7/1983 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327964 | Coal License | CDC | 10/7/1983 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327965 | Coal License | CDC | 10/7/1983 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| | | | | | **TOTALS** | **11,693** | **$ 286,850.00** |

## 3.0 PREVIOUS WORK

This section has been adapted from Ledda (1999) who concisely compiled all material previous work done on the Telkwa Property.

Coal was initially discovered in the Telkwa area at about 1900 although production did not commence in the Goathorn Creek area until 1918. On the north bank of the Telkwa River the Aveling (Telkole) Mine produced coal from 1921 to 1922 and again from 1940 to 1945. Telkwa Colliery (McNiel Mine) on the south side of the Telkwa River began producing in 1923 (Malott, 1990). Initial mining production was mainly for local consumption until after 1930 when underground operations were initiated at Bulkley Valley Collieries near Goathorn Creek. Production since that time has been sporadic, however, with underground operations often curtailed by structural complications and inadequate pre-development exploration.

Since 1950 the Telkwa Coalfield has been actively prospected by a variety of companies. Table 2 on the following page provides a tabular summary of the exploration activities completed on the property since that time, while the following provides a descriptive summary of the area's exploration activities.

- **1951 - The Government of Canada** conducted a regional survey, much of which included the Telkwa license area.

- **1969 - Canex Aerial Limited** completed a drilling program of approximately 20 boreholes on the Telkwa North licenses.

- **1977 to 1978 - Cyprus Anvil Mining** completed a rotary drilling program within the Telkwa South licenses.

- **1979 - Shell Canada/Crowsnest Resources Ltd.** completed 13 rotary drill-holes, 4 of which were located on Telkwa South licenses, and the remaining 9 situated on the north side of the Telkwa River. Chip samples were not recovered for analytical testing.

- **1981 - Shell Canada/Crowsnest Resources Ltd.** completed a mapping and exploration drilling program which consisted of 11 rotary holes and one diamond drill-hole, all of which were spaced randomly throughout the Telkwa property. Coal samples were recovered from 4 of the rotary holes as well as the diamond drill-hole for analyses.

- **1982 - Shell Canada/Crowsnest Resources Ltd.** drilled 72 boreholes on the property, the majority of which were located on the south side of the Telkwa River. Of the 72 holes, 7 were rotary drill-holes and 65 were diamond drill-holes. Coal samples were collected and analyzed from all holes that intersected significant coal units.

- **1983 - Shell Canada/Crowsnest Resources Ltd.** completed 69 diamond drill-holes on the Telkwa South licenses, most of which were located within what has been designated as the Goathorn East (Pit #3) resource area. Included within the program were a small number of large-diameter core-holes which, along with all other drill-holes that intersected significant coal units, were sampled and had coal analyses performed. Of the 69 boreholes completed, 11 were situated within the proposed Pit #3 test-pit limits, to provide a preview of the pit development.

Table 2. Telkwa Property Exploration History

| Year | Total Drill Holes (rotary & core) | Rotary | Core | ARD Cores | Trenches | ARD Trenches | Surface Geology Drill Holes | Piezometers (piezos per site) | Surface Geophysics (kms) | Bulk Sample (resource area) | Company | Total Expenditures |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1969 | 20 | 20? | 0? | - | - | - | - | - | - | - | Canex Aerial Ltd. | $ - |
| 1977/78 | 10? | 10? | 0? | - | - | - | - | - | - | - | Cyprus Anvil Mining | $ - |
| 1979 | 13 | 13 | - | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1980 | - | - | - | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1981 | 12 | 11 | 1 | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1982 | 72 | 7 | 65 | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1983 | 69 | - | 69 | - | - | - | - | - | - | Pit #3 (2191) | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1984 | 44 | - | 44 | 5 | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1985 | 4 | - | 4 | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1986 | 4 | - | 4 | - | - | - | - | 1/1 | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1987 | - | - | - | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1988 | 14 | - | 14 | 2 | - | - | - | - | 3.5 | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1989 | 40 | 18 | 22 | - | 16 | - | - | 5/4 | 20.3 | Pit #7 (6' core) | CNRL/Coal Mining Research Co./GSC | $ - |
| 1990 | - | - | - | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1991 | - | - | - | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1992 | 43 | 20 | 23 | 6 | 5 | 5 | - | - | 3.6 | - | Manalta Coal Ltd. | $ 503,100 |
| 1993 | 53 | 33 | 20 | 6 | - | - | 10 | 7/5 | 19.0 | - | Manalta Coal Ltd. | $ 627,362 |
| 1994 | 56 | 48 | 8 | 2 | - | - | - | - | - | - | Manalta Coal Ltd. | $ 1,265,595 |
| 1995 | 83 | 71 | 12 | 3 | 5 | 4 | - | 4/4 | - | - | Manalta Coal Ltd. | $ 1,997,000 |
| 1996 | 155 | 136 | 19 | 13 | 10 | 4 | 18 | 15/13 | - | Tenas (801?) | Manalta Coal Ltd. | $ 2,035,000 |
| 1997 | 121 | 113 | 8 | 8 | 27 | 16 | 7 | 25/18 | - | - | Manalta Coal Ltd. | $ 1,388,440 |
| 1998 | 45 | 57 | 8 | 4 | 32 | 19 | - | 2/2 | - | Tenas (6' core) | Manalta Coal Ltd. | $ 560,000 |
| **TOTALS** | **828** | **507** | **321** | **49** | **95** | **48** | **35** | **59/47** | **46.4** | **-** | **-** | **$ 8,376,497** |

Based upon drill-hole information a 219 tonne bulk sample from 7 seams was subsequently extracted from a test-pit located within the Pit #3 area. A full suite of coal quality analyses was performed, including testing on various simulated washplant products.

- **1984 - Shell Canada/Crowsnest Resources Ltd.** completed 44 diamond drill-holes, the majority of which were located within the Pit #3 resource area on the south side of the Telkwa River. Less than 10% of the holes were drilled on the Telkwa North coal licenses. All significant coal units were sampled and analyzed.

- **1985 - Shell Canada/Crowsnest Resources Ltd.** completed 4 diamond drill-holes, all of which were located north of the Telkwa River. All significant coals were sampled and analyzed.

- **1986 - Shell Canada/Crowsnest Resources Ltd.** completed 4 diamond drill-holes, again located on the Telkwa North coal licenses within an area that was designated as the Pits #7 and #8 Resource Area. Coal analyses were performed on all significant seams.

- **1988 - Shell Canada/Crowsnest Resources Ltd.** completed an exploration program exclusive to the Telkwa North licenses which consisted of initially completing approximately 3.5 kilometers of surface geophysics to highlight potential target locations. The area was subsequently drilled with 14 diamond drill-holes from which coal samples were collected and analyzed.

- **1989 - Shell Canada/Crowsnest Resources Ltd.** completed an exploration program consisting of drilling, trenching and surface geophysics on the Telkwa North coal licenses, and reflection seismic exploration within the Pit #3 area of the Telkwa South licenses. In addition a large-diameter coring program was undertaken specifically targeted at obtaining a bulk sample from the Pit #7 resource area.

  The conventional exploration drilling program included 31 bore-holes, 18 of which were rotary drill-holes, and the remaining 13 continuous core diamond drill-holes. Coal samples for analyses were collected from all holes that intersected significant coal units although only cored bore-holes were provided a full analyses. Analytical results from recovered rotary chip samples were not considered representative.

  At proposed wastedump and tailings pond locations 16 trenches were completed to evaluate the characteristics of the surficial lithologies. The Telkwa North surface geophysics included approximately 15.4 kilometers of geophysics shared between the Pit #7 resource area, the Pit #8 proposed waste dump area and the proposed infrastructure facilities location.

  Upon completion of the conventional exploration program four previously drilled sites in the Pit #7 area were selected as locations for large-diameter (6-inch) core-holes. From these a cumulative bulk sample from 7 seams was extracted and provided a complete analysis.

  As part of a joint investigation managed by the Coal Mining Research Company of Devon, Alberta, 4 seismic lines totaling 4.9 kilometers were laid out and a reflection seismic exploration program completed. The area chosen for the investigation was within the Pit #3 resource area where reasonable drill-hole control had previously been established.

- **1989 - The Geological Survey of Canada**, as part of a province-wide study of coal quality, drilled 9 core-holes for a combined total length of 280 meters in the vicinity of the old Bulkley Valley Collieries site near Goathorn Creek. Two of the holes were drilled in the vicinity of the historic Aveling Mine. All coal intersections were sampled and subsequently analyzed.

- **1992 - Manalta Coal Ltd.** of Calgary, Alberta acquired the Telkwa Property coal licenses on May 1st, 1992 from Shell Canada/Crowsnest Resources Ltd.. Later the same year Manalta Coal conducted an exploration program that included 3.6 kilometers of surface geophysics, a regional airborne magnetic survey review, 5 track-hoe trenches and 43 drill-holes. The surface geophysics, trenches and 39 of the 43 holes drilled were located on the Telkwa North licenses, while the remaining 4 drill-holes were completed on the south side of the Telkwa River in the Tenas Creek vicinity.

  Of the 43 bore-holes completed 19 were diamond core-holes, 3 were rotary core-holes and 21 were drilled utilizing conventional rotary drilling techniques. All holes completed in the Tenas Creek area were of the rotary variety although one was rotary cored through its coal measures. All significant coal seam intersections from cored drill-holes were sampled and analyzed.

  Coincidental with the exploration drilling program representatives from the British Columbia Ministry of Energy, Mines and Petroleum Resources (MEMPR), and the Institute of Sedimentary and Petroleum Geology (ISPG) were on site to conduct coalbed methane desorption tests on selected Telkwa coal samples. The study conducted by the MEMPR and the ISPG was part of a regional study of methane desorption in British Columbia coalfields.

- **1993 - Manalta Coal Ltd.** completed an exploration program consisting of 53 drill-holes shared between the Telkwa North and Telkwa South coal licenses. A geotechnical and surficial geology program was also completed by Piteau Engineering on behalf of Manalta Coal Ltd. which included rock strength testing on selected cores, approximately 19 kilometers of surface geophysics and 10 till sample sites. All surficial geology studies were completed within a proposed tailings pond investigation area located near the Pit #7 and #8 resource areas.

  The Tenas Creek exploration area on the south side of the Telkwa River was the focus of 26 drill-holes, targeted at obtaining additional coal quality information and further delineation of the field's limits. Also within the Telkwa South coal licenses, 5 drill-holes, all of which were cored, were completed within the Pit #3 resource area to obtain additional coal quality information.

  Exploration completed on the Telkwa North coal licenses consisted of 2 drill-holes within the limits of the Pit #8 Resource Area, 11 drill-holes dedicated to further exploration of the Pit #8 coal trend beyond current pit limits, and 9 reconnaissance drill-holes completed proximal to the Pits #7 and #8 resource areas.

  Of the 53 bore-holes completed in 1993 11 were diamond drilled coreholes, 10 were rotary core-holes (including one 1993 core-hole on a site utilized the previous year) and 33 were drilled utilizing conventional rotary techniques. All significant coal seam intersections from cored drill-holes were sampled and subsequently analyzed.

- **1994 - Manalta Coal Ltd.** completed their third annual exploration program, consisting of geological surface mapping and the completion of 56 rotary drill-holes, 8 of which were cored at

least partially. Work was undertaken on both sides of the Telkwa River, although dominated slightly by drilling activities on the southern coal licenses where 32 drillholes were completed.

Of the 32 drill-holes completed on the Telkwa South coal licenses 13 were dedicated to further exploration of the Tenas resource area, while 19 exploratory drill-holes were completed to evaluate the coal-bearing potential of the Tenas West coal licenses. Drilling on the Telkwa North licenses included 14 exploratory drill-holes within the MCL (Whalen) Freehold Block, 8 within tentative wastedump areas between Pit #8 and Whalen Block, and 3 drill-holes completed proximal to the Pit #7 resource area. All cored coal seam intersections were sampled and subsequently analyzed.

- **1995 - Manalta Coal Ltd.** completed a summer exploration program, limited exclusively to the Telkwa South coal licenses. A cumulative total of 83 drill-holes totaling approximately 9600 meters, and 5 track-hoe trenches were completed. Of the 83 drill-holes, 3 were continuously cored using a heliportable diamond drilling rig in environmentally sensitive areas near Cabinet Creek, while 9 additional core-holes within the Tenas resource area were completed using conventional coring methods. Coal samples were collected from all cored holes where coal measures were intersected, while rock samples were collected from 3 of the Tenas core-holes. Coal samples were analyzed for their coal quality properties while host rock samples were evaluated for their acid generating potential.

  As in some previous years, a geotechnical and hydrogeological program was completed coincidentally with exploration activities, supported by Piteau Engineering Consultants. Four piezometer installations were completed to monitor groundwater flows in the Tenas area and 5 track-hoe trenches, also in the Tenas area, were completed to investigate the surficial lithologies of potential wastedump sites. The lithologies intersected by the trenches were also sampled and analyzed to evaluate their acid generating potential.

- **1996 – Manalta Coal Ltd.** conducted an extensive exploration program on the Telkwa South coal licenses, which included the completion of 155 rotary drill-holes, 10 trenches, 18 shallow surficial drill-holes and the extraction of an 80 tonne bulk coal sample. Drilling activities were restricted mainly to the Tenas and Goathorn East resource areas, while the bulk sample was collected from two small pits dug near the western subcrop edge of the Tenas resource area.

  From the bulk sample test-pits the 3 mineable Tenas seams (c-seam, 1U-seam and 1-seam), as well as proportional amounts of host roof and floor lithologies, were collected and sampled individually. The 1Useam, 1-seam and associated host lithologies were collected from the main pit, while the c-seam and related lithologies were collected from the 2nd, smaller pit. A complete suite of coal quality analytical tests were subsequently performed, including testing on various simulated proposed products.

  Of the 155 rotary drill-holes completed, 19 were cored at least partially. Six of the core-holes were completed within the proposed test-pit area prior to pit development to determine seam oxidation levels within the sample collection site, and to evaluate the suitability of the site for the collection of a field representative bulk sample. The 13 other coreholes, completed within the Tenas (10) and Goathorn East (3) resource areas, were continuously cored for acid base accounting and coal quality purposes.

The 18 shallow surficial geology drill-holes were completed to investigate the surficial lithologies of potential tailings pond and wastedump locations. Piezometers were installed within the surficial lithologies of 7 of the bore-holes, while an additional 8 piezometers were installed within the coal seams at 6 conventional drill-sites. Piezometers were also installed within the coal horizons of the 2 testpits prior to backfilling in order to collect groundwater samples and monitor its flow.

Of the 10 trenches completed in 1996, 6 were completed within the confines of the Tenas test-pits for the purpose of channel sample collection. All of the remaining trenches were completed randomly in the Tenas resource area for the purposes of investigating the area surficial lithologies, and collecting acid base accounting data.

- **1997 – Manalta Coal Ltd.** conducted an exploration drilling program, again limited exclusively to the Telkwa South coal licenses. Completed within the scope of the program were 121 geology drill-holes and 3 geotechnical bore-holes. Twenty-seven trenches, targeted at further investigating the surficial lithologies of the plantsite, tailings pond and Goathorn East resource areas, were also completed.

  Included within the conventional drilling component of the program were 72 drill-holes within the Goathorn East (Pit #3) area, 43 within Tenas area and 6 within the Goathorn West (Pit #6) area. The surficial bore-holes were completed within potential wastedump locations of Tenas and Goathorn areas, while the 3 geotechnical holes were completed within the 1983 Pit #3 test-pit reclamation area.

  Of the 121 conventional drill-holes completed during the 1997 program, 8 were continuously cored and sampled for coal and rock sample collection purposes. All coal samples were subsequently analyzed for seam quality determinations, while rock samples were analyzed for their acid generating potential. Sixteen of the trenches and each of the reclamation pit drill-holes were also thoroughly sampled and subsequently analyzed for their acid generating potential.

  Within the conventional drill-holes, piezometers were installed at 11 locations, including 4 nested sites where multiple stratigraphic horizons were investigated. Each of the 3 reclamation pit drill-holes, and all of the shallow overburden bore-holes, were also installed with piezometers to monitor groundwater flow characteristics.

- **1998 – Manalta Coal Ltd.** conducted an exploration program restricted locally to the Telkwa South coal licenses, which included 45 drill-holes and 32 track-hoe trenches. Included among the 45 drill-holes were 5 large-diameter conventional core-holes from which bulk samples were collected of the Tenas main mineable seams. For control purposes each of the bulk sample core-holes was completed at an existing, historically completed drill-hole location. Three conventional continuous core-holes, also among the 45 drill-holes, were completed for acid base accounting purposes and to collect coal samples for seam quality determinations.

  The trenching component of the exploration program was supported by Piteau Engineering Consultants of Calgary, and was targeted at investigating the surficial lithologies of the proposed plantsite, tailings pond, loadout and haul route corridors. Samples of intersected lithologies

were collected from 19 trench locations and subsequently analyzed for their acid generating potential.

Included within the conventional drilling component of the program were 20 drill-holes within the Goathorn East (Pit #3) area, 8 within Tenas area, 9 within the proposed tailings pond location and 3 within the Goathorn West (Pit #6) area. Continuous cores were collected from among the Tenas, Goathorn East and tailings pond areas. Piezometers were ultimately installed within drill-holes of the Goathorn East and West resource areas.

## 4.0 FUTURE PLANS

In September 2014, CDC signed a farm-in and option agreement with Telkwa Coal Limited ("TCL"). TCL is currently engaged in the initial planning stages for a 2015 exploration program that can be used to help prepare a Joint Ore Reserves Committee (JORC) compliant resource assessment of the Telkwa deposit. Part of the initial planning work includes meeting with local community and aboriginal groups as well as with other stakeholders from the area. The work being planned by TCL could lead to a pre-feasibility study being completed within the next year or so.

For the interim, CDC will maintain title of all coal licenses and freehold lands comprising the Telkwa Property as well as ensure all regulatory payments and filings are met.

## 5.0 REFERENCES

Ledda, A. (1999): Telkwa Property 1995 to 1998 Geological Assessment Report prepared on behalf of Luscar Limited; Unpublished, 75 pages.

Dated this 27th of October 2014,

Rod Churchill, M.Sc.
Lands Manager

# COAL ASSESSMENT REPORT TITLE PAGE AND SUMMARY

| | |
|---|---|
| **TITLE OF REPORT:** | Report Submitted to the Ministry of Energy & Mines to Satisfy Section 8(1) Requirements of the Coal Act Regarding Telkwa Property Coal License(s): **366754** |
| **TOTAL COST:** | $0 (no work performed in 2014 due to acquisition of license holder Carbon Development Corporation by Altius Minerals Corporation in April 2014. Since acquisition was at end of Q2-2014, there was insufficient time to evaluate information received on existing licenses in order to plan and execute any exploration programs. |
| **AUTHOR(S):** | Rod Churchill, M.Sc., Lands Manager, Carbon Development Corporation |
| **SIGNATURE(S):** |  |
| **NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):** | Not applicable; No permits applied for |

| | |
|---|---|
| **DATE SUBMITTED:** | October 25, 2014 |
| **YEAR OF WORK:** | 2014 |
| **PROPERTY NAME:** | Telkwa |
| **COAL LICENSE(S) AND/OR LEASES ON WHICH PHYSICAL WORK WAS DONE:** | No physical work performed. |

| | |
|---|---|
| **MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:** | 09311 Col1 |
| **MINING DIVISION:** | Omineca |
| **NTS / BCGS:** | 093L11I / BCGS ? |
| **LATITUDE:** | 54° 40’ 24" *(at centre of work)* |
| **LONGITUDE:** | 127° 00’ 53" *(at centre of work)* |
| **UTM Zone:** 9N **EASTING:** 628,023 **NORTHING:** 6,060,267 | |

| | |
|---|---|
| **OWNER(S):** | Carbon Development Corporation |
| **MAILING ADDRESS:** | P.O. Box 8263, Station A, St. John’s, NL, A1B 3N4, CANADA \| Tel: 709-579-8290 |
| **OPERATOR(S)** *(who paid for the work):* | Not applicable |
| **MAILING ADDRESS:** | Not applicable |

**REPORT KEYWORDS**
*(lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude - do not use abbreviations or codes)*

coal, claystone, siltstone, sandstone, conglomerate, minor tuff, lava beds, Lower-Upper Cretaceous, Skeena Group, Telkwa

| |
|---|
| Basin, Goathorn Creek, Pine Creek, Cabinet Creek, Telkwa North-Avelling Hill, Tenas Creek, in-situ ~125 million tonnes, past-producer, Manalta, Luscar, Bulkley Valley Coal Limited, Carbon Development Corporation |

| **REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:** |
|---|
| Not Applicable |

## SUMMARY OF TYPES OF WORK IN THIS REPORT

| **GEOLOGICAL (scale, area)**<br>*Work to Report:* ☐ *Yes* ☒ *No* | | **EXTENT OF WORK (in metric units)** | **ON WHICH TENURES** |
|---|---|---|---|
| | Ground, mapping | | |
| | Photo interpretation | | |

| **GEOPHYSICAL (line-kilometres)**<br>*Work to Report:* ☐ *Yes* ☒ *No* | | **EXTENT OF WORK (in metric units)** | **ON WHICH TENURES** |
|---|---|---|---|
| | Ground (Specify types) | | |
| | Airborne(Specify types) | | |
| | Borehole | | |
| | Gamma, Resistivity, | | |
| | Resistivity | | |
| | Caliper | | |
| | Deviation | | |
| | Dip | | |
| | Others (specify) | | |
| | Core | | |
| | Non-core | | |

| **SAMPLING AND ANALYSES**<br>*Work to Report:* ☐ *Yes* ☒ *No* | | **EXTENT OF WORK (in metric units)** | **ON WHICH TENURES** |
|---|---|---|---|
| Total Number of Samples | | | |
| | Proximate | | |
| | Ultimate | | |
| | Petrographic | | |
| | Vitrinite reflectance | | |
| | Coking | | |
| | Wash tests | | |

| **PROSPECTING (scale/area)**<br>*Work to Report:* ☐ *Yes* ☒ *No* | **EXTENT OF WORK (in metric units)** | **ON WHICH TENURES** |
|---|---|---|
| Preparatory/Physical | | |
| Line/grid (km) | | |
| Trench (number, metres) | | |
| Bulk sample(s) | | |

**REPORT SUBMITTED TO THE MINISTRY OF ENERGY & MINES TO SATISFY SECTION 8(1) REQUIREMENTS OF THE COAL ACT**

**Regarding Telkwa Property Coal License(s): 366754**

**Submitted On Behalf Of:**
Carbon Development Corporation ("CDC")
Suite 202, 66 Kenmount Road
St. John's, NL, A1B 3V7
Tel: 709-579-8290

**Submitted By:**
Rod Churchill, M.Sc.
Lands Manager

**October 27, 2014**

# TABLE OF CONTENTS



## LIST OF TABLES



## LIST OF FIGURES

# 1.0 INTRODUCTION

## 1.1 General

This report has been prepared to apprise the Minister of activities ongoing at the Telkwa Coal Project in east-central British Columbia.

On 2014-Apr-28, Altius Minerals Corporation ("Altius") of St. John's, NL closed the acquisition of a portfolio of 11 producing coal and potash royalties from Prairie Mines & Royalty Ltd. (“Prairie Royalties”), wholly-owned subsidiary of Sherritt International Corporation (“Sherritt”). Altius also acquired 100% ownership of Sherritt's Carbon Development Partnership ("CDP"). CDP's wholly owned company Carbon Development Corporation ("CDC") holds coal licenses on behalf of CDP including those located in the Telkwa Area.

## 1.2 Location & Access

The Telkwa coal license group ("Property") is located approximately 2 km southwest of the community of Telkwa and 15 km south of Smithers which is the large community in this area and which has daily air service. Smithers is ~380 km by rail from Prince Rupert and the Ridley coal handling terminal.

The Property is bisected by the northeast flowing Telkwa River. An all-weather-road originating from Smithers provides access to the north half of the Property and a second all-weather-road originating from Telkwa provides access to the south half of the Property. Numerous logging roads and ATV trails turn from the all-weather-roads providing access to more remote sections of the Property.

# 2.0 MINERAL TENURE

The Property is comprised of 41 Crown Coal Licenses and 5 Freehold titles containing 11,693 hectares. Twenty-nine (29) licenses are issued to CDC and comprise a total of 7,284 hectares. In addition to the coal licenses, CDC also holds 1,301 hectares under five (5) Freehold coal titles. Augmenting the land position are an additional twelve (12) coal licenses issued to Bulkley Valley Coal Limited ("BVCL") comprising 3,108 hectares. CDC has an agreement with BVCL whereby CDC pays BVCL a $2.00 per acre pre-production royalty annually in exchange for the right to explore and develop coal resources upon those coal licenses. The pre-production royalty amounts to a $15,360 payment each year by CDC to BVCL. This agreement is renewable every 5 years with the current agreement expiring on May 31, 2015.

As per the Coal Act and Regulations, annual rentals are due for each coal license based on the number of hectares contained within the coal license and the number of years that the coal license has been issued. Accordingly, this report was prepared to accompany payment of the annual rental costs for coal license 366754 which is due on or before November 5, 2014. This license was issued on November 5, 1998 and requires an annual rental of $20/ha on the 140 hectares contained in the license which amounts to $2,800.

Figure 1 provides a map of the Property showing the distribution of mineral lands. Table 1, provides a listing of mineral licenses and freehold titles that comprise the Property as well as the annual rentals required for each coal license.

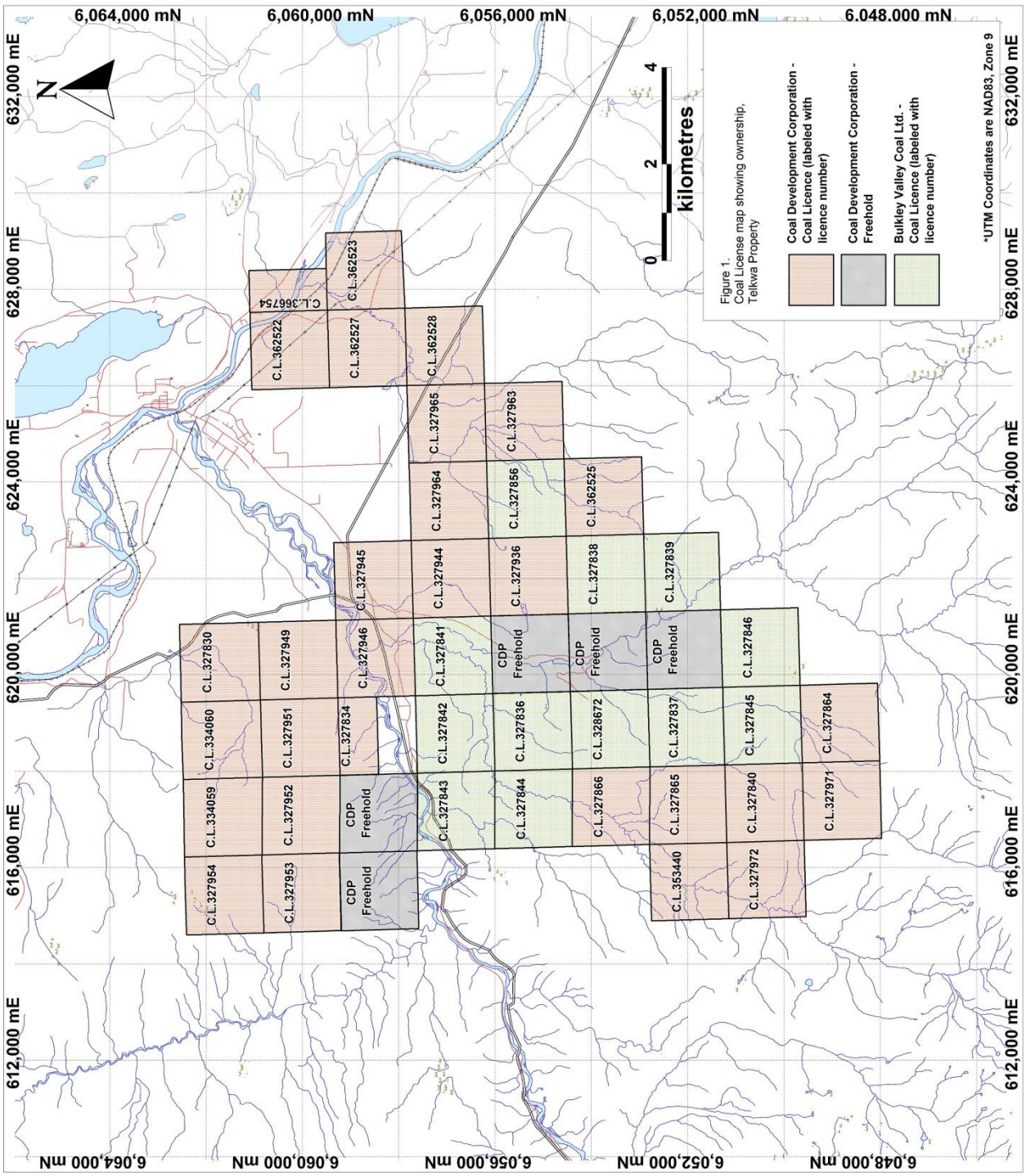
6,064,000 mN
6,060,000 mN
6,056,000 mN
6,052,000 mN
6.048.000 mN
632,000 mE
628,000 mE
624,000 mE
620,000 mE
616,000 mE
612,000 mE
6,064,000 mN
6,060,000 mN
6,056,000 mN
6,052,000 mN
6,048,000 mN
N
0
2
4
kilometres
Figure 1.
Coal License map showing ownership,
Telkwa Property
Coal Development Corporation - Coal Licence (labeled with licence number)
Coal Development Corporation - Freehold
Bulkley Valley Coal Ltd. - Coal Licence (labeled with licence number)
*UTM Coordinates are NAD83, Zone 9
C.L.366754
C.L.362522
C.L.362523
C.L.362527
C.L.362528
C.L.327965
C.L.327963
C.L.327964
C.L.327856
C.L.362525
C.L.327945
C.L.327944
C.L.327936
C.L.327838
C.L.327839
C.L.327830
C.L.327949
C.L.327946
C.L.327841
CDP Freehold
CDP Freehold
CDP Freehold
C.L.327846
C.L.334060
C.L.327951
C.L.327834
C.L.327842
C.L.327836
C.L.328672
C.L.327837
C.L.327845
C.L.327864
C.L.334059
C.L.327952
CDP Freehold
C.L.327843
C.L.327844
C.L.327866
C.L.327865
C.L.327840
C.L.327971
C.L.327954
C.L.327953
CDP Freehold
C.L.353440
C.L.327972

Table 1. Mineral Land Holdings, Telkwa Property

| Tenure No. | Tenure Type | Title Holder | Application Date | Good to Date | Years Since Issue | Tenure Hectares | Annual Rental Due |
|---|---|---|---|---|---|---|---|
| DL 230 | Freehold | CDC | --- | --- | --- | 259 | $ - |
| DL 237 | Freehold | CDC | --- | --- | --- | 259 | $ - |
| DL 389 | Freehold | CDC | --- | --- | --- | 262 | $ - |
| DL 391 | Freehold | CDC | --- | --- | --- | 262 | $ - |
| DL 401 | Freehold | CDC | --- | --- | --- | 259 | $ - |
| 353440 | Coal License | CDC | 2/6/1997 | 2/6/2014 | 17 | 259 | $ 5,180.00 |
| 334059 | Coal License | CDC | 3/1/1995 | 3/1/2014 | 19 | 269 | $ 5,380.00 |
| 334060 | Coal License | CDC | 3/1/1995 | 3/1/2014 | 19 | 269 | $ 5,380.00 |
| 362522 | Coal License | CDC | 5/12/1998 | 5/12/2014 | 16 | 259 | $ 5,180.00 |
| 362523 | Coal License | CDC | 5/12/1998 | 5/12/2014 | 16 | 259 | $ 5,180.00 |
| 362525 | Coal License | CDC | 5/12/1998 | 5/12/2014 | 16 | 259 | $ 5,180.00 |
| 362527 | Coal License | CDC | 5/12/1998 | 5/12/2014 | 16 | 259 | $ 5,180.00 |
| 362528 | Coal License | CDC | 5/12/1998 | 5/12/2014 | 16 | 259 | $ 5,180.00 |
| 327830 | Coal License | CDC | 5/30/1986 | 5/12/2014 | 28 | 260 | $ 7,800.00 |
| 327971 | Coal License | CDC | 7/30/1990 | 7/30/2014 | 24 | 259 | $ 6,475.00 |
| 327972 | Coal License | CDC | 7/30/1990 | 7/30/2014 | 24 | 259 | $ 6,475.00 |
| 366754 | Coal License | CDC | 11/5/1998 | 11/5/2014 | 16 | 140 | $ 2,800.00 |
| 327836 | Coal License | BVCL | 9/20/1977 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327837 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327838 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327839 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327841 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327842 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327843 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327844 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327845 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327846 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327856 | Coal License | BVCL | 6/23/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 328672 | Coal License | BVCL | 9/20/1977 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327834 | Coal License | CDC | 6/24/1980 | 12/31/2014 | 28 | 130 | $ 3,900.00 |
| 327840 | Coal License | CDC | 2/1/1980 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327864 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327865 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327866 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327936 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327944 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327945 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327946 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327949 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327951 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327952 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327953 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327954 | Coal License | CDC | 9/1/1978 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327963 | Coal License | CDC | 10/7/1983 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327964 | Coal License | CDC | 10/7/1983 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| 327965 | Coal License | CDC | 10/7/1983 | 12/31/2014 | 28 | 259 | $ 7,770.00 |
| | | | | | **TOTALS** | **11,693** | **$ 286,850.00** |

## 3.0 PREVIOUS WORK

This section has been adapted from Ledda (1999) who concisely compiled all material previous work done on the Telkwa Property.

Coal was initially discovered in the Telkwa area at about 1900 although production did not commence in the Goathorn Creek area until 1918. On the north bank of the Telkwa River the Aveling (Telkole) Mine produced coal from 1921 to 1922 and again from 1940 to 1945. Telkwa Colliery (McNiel Mine) on the south side of the Telkwa River began producing in 1923 (Malott, 1990). Initial mining production was mainly for local consumption until after 1930 when underground operations were initiated at Bulkley Valley Collieries near Goathorn Creek. Production since that time has been sporadic, however, with underground operations often curtailed by structural complications and inadequate pre-development exploration.

Since 1950 the Telkwa Coalfield has been actively prospected by a variety of companies. Table 2 on the following page provides a tabular summary of the exploration activities completed on the property since that time, while the following provides a descriptive summary of the area's exploration activities.

- **1951 - The Government of Canada** conducted a regional survey, much of which included the Telkwa license area.

- **1969 - Canex Aerial Limited** completed a drilling program of approximately 20 boreholes on the Telkwa North licenses.

- **1977 to 1978 - Cyprus Anvil Mining** completed a rotary drilling program within the Telkwa South licenses.

- **1979 - Shell Canada/Crowsnest Resources Ltd.** completed 13 rotary drill-holes, 4 of which were located on Telkwa South licenses, and the remaining 9 situated on the north side of the Telkwa River. Chip samples were not recovered for analytical testing.

- **1981 - Shell Canada/Crowsnest Resources Ltd.** completed a mapping and exploration drilling program which consisted of 11 rotary holes and one diamond drill-hole, all of which were spaced randomly throughout the Telkwa property. Coal samples were recovered from 4 of the rotary holes as well as the diamond drill-hole for analyses.

- **1982 - Shell Canada/Crowsnest Resources Ltd.** drilled 72 boreholes on the property, the majority of which were located on the south side of the Telkwa River. Of the 72 holes, 7 were rotary drill-holes and 65 were diamond drill-holes. Coal samples were collected and analyzed from all holes that intersected significant coal units.

- **1983 - Shell Canada/Crowsnest Resources Ltd.** completed 69 diamond drill-holes on the Telkwa South licenses, most of which were located within what has been designated as the Goathorn East (Pit #3) resource area. Included within the program were a small number of large-diameter core-holes which, along with all other drill-holes that intersected significant coal units, were sampled and had coal analyses performed. Of the 69 boreholes completed, 11 were situated within the proposed Pit #3 test-pit limits, to provide a preview of the pit development.

Table 2. Telkwa Property Exploration History

| Year | Total Drill Holes (rotary & core) | Rotary | Core | ARD Cores | Trenches | ARD Trenches | Surface Geology Drill Holes | Piezometers (piezos per site) | Surface Geophysics (kms) | Bulk Sample (resource area) | Company | Total Expenditures |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1969 | 20 | 20? | 0? | - | - | - | - | - | - | - | Canex Aerial Ltd. | $ - |
| 1977/78 | 10? | 10? | 0? | - | - | - | - | - | - | - | Cyprus Anvil Mining | $ - |
| 1979 | 13 | 13 | - | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1980 | - | - | - | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1981 | 12 | 11 | 1 | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1982 | 72 | 7 | 65 | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1983 | 69 | - | 69 | - | - | - | - | - | - | Pit #3 (2191) | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1984 | 44 | - | 44 | 5 | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1985 | 4 | - | 4 | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1986 | 4 | - | 4 | - | - | - | - | 1/1 | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1987 | - | - | - | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1988 | 14 | - | 14 | 2 | - | - | - | - | 3.5 | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1989 | 40 | 18 | 22 | - | 16 | - | - | 5/4 | 20.3 | Pit #7 (6' core) | CNRL/Coal Mining Research Co./GSC | $ - |
| 1990 | - | - | - | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1991 | - | - | - | - | - | - | - | - | - | - | Crowsnest Resources Ltd. (CNRL) | $ - |
| 1992 | 43 | 20 | 23 | 6 | 5 | 5 | - | - | 3.6 | - | Manalta Coal Ltd. | $ 503,100 |
| 1993 | 53 | 33 | 20 | 6 | - | - | 10 | 7/5 | 19.0 | - | Manalta Coal Ltd. | $ 627,362 |
| 1994 | 56 | 48 | 8 | 2 | - | - | - | - | - | - | Manalta Coal Ltd. | $ 1,265,595 |
| 1995 | 83 | 71 | 12 | 3 | 5 | 4 | - | 4/4 | - | - | Manalta Coal Ltd. | $ 1,997,000 |
| 1996 | 155 | 136 | 19 | 13 | 10 | 4 | 18 | 15/13 | - | Tenas (801?) | Manalta Coal Ltd. | $ 2,035,000 |
| 1997 | 121 | 113 | 8 | 8 | 27 | 16 | 7 | 25/18 | - | - | Manalta Coal Ltd. | $ 1,388,440 |
| 1998 | 45 | 57 | 8 | 4 | 32 | 19 | - | 2/2 | - | Tenas (6' core) | Manalta Coal Ltd. | $ 560,000 |
| **TOTALS** | **828** | **507** | **321** | **49** | **95** | **48** | **35** | **59/47** | **46.4** | **-** | **-** | **$ 8,376,497** |

Based upon drill-hole information a 219 tonne bulk sample from 7 seams was subsequently extracted from a test-pit located within the Pit #3 area. A full suite of coal quality analyses was performed, including testing on various simulated washplant products.

- **1984 - Shell Canada/Crowsnest Resources Ltd.** completed 44 diamond drill-holes, the majority of which were located within the Pit #3 resource area on the south side of the Telkwa River. Less than 10% of the holes were drilled on the Telkwa North coal licenses. All significant coal units were sampled and analyzed.

- **1985 - Shell Canada/Crowsnest Resources Ltd.** completed 4 diamond drill-holes, all of which were located north of the Telkwa River. All significant coals were sampled and analyzed.

- **1986 - Shell Canada/Crowsnest Resources Ltd.** completed 4 diamond drill-holes, again located on the Telkwa North coal licenses within an area that was designated as the Pits #7 and #8 Resource Area. Coal analyses were performed on all significant seams.

- **1988 - Shell Canada/Crowsnest Resources Ltd.** completed an exploration program exclusive to the Telkwa North licenses which consisted of initially completing approximately 3.5 kilometers of surface geophysics to highlight potential target locations. The area was subsequently drilled with 14 diamond drill-holes from which coal samples were collected and analyzed.

- **1989 - Shell Canada/Crowsnest Resources Ltd.** completed an exploration program consisting of drilling, trenching and surface geophysics on the Telkwa North coal licenses, and reflection seismic exploration within the Pit #3 area of the Telkwa South licenses. In addition a large-diameter coring program was undertaken specifically targeted at obtaining a bulk sample from the Pit #7 resource area.

  The conventional exploration drilling program included 31 bore-holes, 18 of which were rotary drill-holes, and the remaining 13 continuous core diamond drill-holes. Coal samples for analyses were collected from all holes that intersected significant coal units although only cored bore-holes were provided a full analyses. Analytical results from recovered rotary chip samples were not considered representative.

  At proposed wastedump and tailings pond locations 16 trenches were completed to evaluate the characteristics of the surficial lithologies. The Telkwa North surface geophysics included approximately 15.4 kilometers of geophysics shared between the Pit #7 resource area, the Pit #8 proposed waste dump area and the proposed infrastructure facilities location.

  Upon completion of the conventional exploration program four previously drilled sites in the Pit #7 area were selected as locations for large-diameter (6-inch) core-holes. From these a cumulative bulk sample from 7 seams was extracted and provided a complete analysis.

  As part of a joint investigation managed by the Coal Mining Research Company of Devon, Alberta, 4 seismic lines totaling 4.9 kilometers were laid out and a reflection seismic exploration program completed. The area chosen for the investigation was within the Pit #3 resource area where reasonable drill-hole control had previously been established.

- **1989 - The Geological Survey of Canada**, as part of a province-wide study of coal quality, drilled 9 core-holes for a combined total length of 280 meters in the vicinity of the old Bulkley Valley Collieries site near Goathorn Creek. Two of the holes were drilled in the vicinity of the historic Aveling Mine. All coal intersections were sampled and subsequently analyzed.

- **1992 - Manalta Coal Ltd.** of Calgary, Alberta acquired the Telkwa Property coal licenses on May 1st, 1992 from Shell Canada/Crowsnest Resources Ltd.. Later the same year Manalta Coal conducted an exploration program that included 3.6 kilometers of surface geophysics, a regional airborne magnetic survey review, 5 track-hoe trenches and 43 drill-holes. The surface geophysics, trenches and 39 of the 43 holes drilled were located on the Telkwa North licenses, while the remaining 4 drill-holes were completed on the south side of the Telkwa River in the Tenas Creek vicinity.

  Of the 43 bore-holes completed 19 were diamond core-holes, 3 were rotary core-holes and 21 were drilled utilizing conventional rotary drilling techniques. All holes completed in the Tenas Creek area were of the rotary variety although one was rotary cored through its coal measures. All significant coal seam intersections from cored drill-holes were sampled and analyzed.

  Coincidental with the exploration drilling program representatives from the British Columbia Ministry of Energy, Mines and Petroleum Resources (MEMPR), and the Institute of Sedimentary and Petroleum Geology (ISPG) were on site to conduct coalbed methane desorption tests on selected Telkwa coal samples. The study conducted by the MEMPR and the ISPG was part of a regional study of methane desorption in British Columbia coalfields.

- **1993 - Manalta Coal Ltd.** completed an exploration program consisting of 53 drill-holes shared between the Telkwa North and Telkwa South coal licenses. A geotechnical and surficial geology program was also completed by Piteau Engineering on behalf of Manalta Coal Ltd. which included rock strength testing on selected cores, approximately 19 kilometers of surface geophysics and 10 till sample sites. All surficial geology studies were completed within a proposed tailings pond investigation area located near the Pit #7 and #8 resource areas.

  The Tenas Creek exploration area on the south side of the Telkwa River was the focus of 26 drill-holes, targeted at obtaining additional coal quality information and further delineation of the field's limits. Also within the Telkwa South coal licenses, 5 drill-holes, all of which were cored, were completed within the Pit #3 resource area to obtain additional coal quality information.

  Exploration completed on the Telkwa North coal licenses consisted of 2 drill-holes within the limits of the Pit #8 Resource Area, 11 drill-holes dedicated to further exploration of the Pit #8 coal trend beyond current pit limits, and 9 reconnaissance drill-holes completed proximal to the Pits #7 and #8 resource areas.

  Of the 53 bore-holes completed in 1993 11 were diamond drilled coreholes, 10 were rotary core-holes (including one 1993 core-hole on a site utilized the previous year) and 33 were drilled utilizing conventional rotary techniques. All significant coal seam intersections from cored drill-holes were sampled and subsequently analyzed.

- **1994 - Manalta Coal Ltd.** completed their third annual exploration program, consisting of geological surface mapping and the completion of 56 rotary drill-holes, 8 of which were cored at

least partially. Work was undertaken on both sides of the Telkwa River, although dominated slightly by drilling activities on the southern coal licenses where 32 drillholes were completed.

Of the 32 drill-holes completed on the Telkwa South coal licenses 13 were dedicated to further exploration of the Tenas resource area, while 19 exploratory drill-holes were completed to evaluate the coal-bearing potential of the Tenas West coal licenses. Drilling on the Telkwa North licenses included 14 exploratory drill-holes within the MCL (Whalen) Freehold Block, 8 within tentative wastedump areas between Pit #8 and Whalen Block, and 3 drill-holes completed proximal to the Pit #7 resource area. All cored coal seam intersections were sampled and subsequently analyzed.

- **1995 - Manalta Coal Ltd.** completed a summer exploration program, limited exclusively to the Telkwa South coal licenses. A cumulative total of 83 drill-holes totaling approximately 9600 meters, and 5 track-hoe trenches were completed. Of the 83 drill-holes, 3 were continuously cored using a heliportable diamond drilling rig in environmentally sensitive areas near Cabinet Creek, while 9 additional core-holes within the Tenas resource area were completed using conventional coring methods. Coal samples were collected from all cored holes where coal measures were intersected, while rock samples were collected from 3 of the Tenas core-holes. Coal samples were analyzed for their coal quality properties while host rock samples were evaluated for their acid generating potential.

  As in some previous years, a geotechnical and hydrogeological program was completed coincidentally with exploration activities, supported by Piteau Engineering Consultants. Four piezometer installations were completed to monitor groundwater flows in the Tenas area and 5 track-hoe trenches, also in the Tenas area, were completed to investigate the surficial lithologies of potential wastedump sites. The lithologies intersected by the trenches were also sampled and analyzed to evaluate their acid generating potential.

- **1996 – Manalta Coal Ltd.** conducted an extensive exploration program on the Telkwa South coal licenses, which included the completion of 155 rotary drill-holes, 10 trenches, 18 shallow surficial drill-holes and the extraction of an 80 tonne bulk coal sample. Drilling activities were restricted mainly to the Tenas and Goathorn East resource areas, while the bulk sample was collected from two small pits dug near the western subcrop edge of the Tenas resource area.

  From the bulk sample test-pits the 3 mineable Tenas seams (c-seam, 1U-seam and 1-seam), as well as proportional amounts of host roof and floor lithologies, were collected and sampled individually. The 1Useam, 1-seam and associated host lithologies were collected from the main pit, while the c-seam and related lithologies were collected from the 2nd, smaller pit. A complete suite of coal quality analytical tests were subsequently performed, including testing on various simulated proposed products.

  Of the 155 rotary drill-holes completed, 19 were cored at least partially. Six of the core-holes were completed within the proposed test-pit area prior to pit development to determine seam oxidation levels within the sample collection site, and to evaluate the suitability of the site for the collection of a field representative bulk sample. The 13 other coreholes, completed within the Tenas (10) and Goathorn East (3) resource areas, were continuously cored for acid base accounting and coal quality purposes.

The 18 shallow surficial geology drill-holes were completed to investigate the surficial lithologies of potential tailings pond and wastedump locations. Piezometers were installed within the surficial lithologies of 7 of the bore-holes, while an additional 8 piezometers were installed within the coal seams at 6 conventional drill-sites. Piezometers were also installed within the coal horizons of the 2 testpits prior to backfilling in order to collect groundwater samples and monitor its flow.

Of the 10 trenches completed in 1996, 6 were completed within the confines of the Tenas test-pits for the purpose of channel sample collection. All of the remaining trenches were completed randomly in the Tenas resource area for the purposes of investigating the area surficial lithologies, and collecting acid base accounting data.

- **1997 – Manalta Coal Ltd.** conducted an exploration drilling program, again limited exclusively to the Telkwa South coal licenses. Completed within the scope of the program were 121 geology drill-holes and 3 geotechnical bore-holes. Twenty-seven trenches, targeted at further investigating the surficial lithologies of the plantsite, tailings pond and Goathorn East resource areas, were also completed.

  Included within the conventional drilling component of the program were 72 drill-holes within the Goathorn East (Pit #3) area, 43 within Tenas area and 6 within the Goathorn West (Pit #6) area. The surficial bore-holes were completed within potential wastedump locations of Tenas and Goathorn areas, while the 3 geotechnical holes were completed within the 1983 Pit #3 test-pit reclamation area.

  Of the 121 conventional drill-holes completed during the 1997 program, 8 were continuously cored and sampled for coal and rock sample collection purposes. All coal samples were subsequently analyzed for seam quality determinations, while rock samples were analyzed for their acid generating potential. Sixteen of the trenches and each of the reclamation pit drill-holes were also thoroughly sampled and subsequently analyzed for their acid generating potential.

  Within the conventional drill-holes, piezometers were installed at 11 locations, including 4 nested sites where multiple stratigraphic horizons were investigated. Each of the 3 reclamation pit drill-holes, and all of the shallow overburden bore-holes, were also installed with piezometers to monitor groundwater flow characteristics.

- **1998 – Manalta Coal Ltd.** conducted an exploration program restricted locally to the Telkwa South coal licenses, which included 45 drill-holes and 32 track-hoe trenches. Included among the 45 drill-holes were 5 large-diameter conventional core-holes from which bulk samples were collected of the Tenas main mineable seams. For control purposes each of the bulk sample core-holes was completed at an existing, historically completed drill-hole location. Three conventional continuous core-holes, also among the 45 drill-holes, were completed for acid base accounting purposes and to collect coal samples for seam quality determinations.

  The trenching component of the exploration program was supported by Piteau Engineering Consultants of Calgary, and was targeted at investigating the surficial lithologies of the proposed plantsite, tailings pond, loadout and haul route corridors. Samples of intersected lithologies

were collected from 19 trench locations and subsequently analyzed for their acid generating potential.

Included within the conventional drilling component of the program were 20 drill-holes within the Goathorn East (Pit #3) area, 8 within Tenas area, 9 within the proposed tailings pond location and 3 within the Goathorn West (Pit #6) area. Continuous cores were collected from among the Tenas, Goathorn East and tailings pond areas. Piezometers were ultimately installed within drill-holes of the Goathorn East and West resource areas.

## 4.0 FUTURE PLANS

In September 2014, CDC signed a farm-in and option agreement with Telkwa Coal Limited ("TCL"). TCL is currently engaged in the initial planning stages for a 2015 exploration program that can be used to help prepare a Joint Ore Reserves Committee (JORC) compliant resource assessment of the Telkwa deposit. Part of the initial planning work includes meeting with local community and aboriginal groups as well as with other stakeholders from the area. The work being planned by TCL could lead to a pre-feasibility study being completed within the next year or so.

For the interim, CDC will maintain title of all coal licenses and freehold lands comprising the Telkwa Property as well as ensure all regulatory payments and filings are met.

## 5.0 REFERENCES

Ledda, A. (1999): Telkwa Property 1995 to 1998 Geological Assessment Report prepared on behalf of Luscar Limited; Unpublished, 75 pages.

Dated this 27th of October 2014,

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