



Shell Canada Limited  
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June 27, 2016

Anastasia Shukalkina, Hearing Services  
Alberta Energy Regulator  
[Anastasia.Shukalkina@aer.ca](mailto:Anastasia.Shukalkina@aer.ca)

**Re: Shell Canada Report on Action Plan for ERCB Decision 2013-009  
Waterton 68 Applications for Pipeline and Facilities Licences**

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Shell Canada Limited (Shell) received approval from the Alberta Energy Regulator for the Waterton 68 pipelines and facilities on May 28, 2013 in ERCB Decision 2013 ABERCB 009. Appendix 4 to the Decision set out an Action Plan with action items and requirements for follow-up. Shell last reported on the status and evidence of completion of the Action Plan items on November 18, 2015. The following is an update to that report.

**1. RWDI Recommendations: Partially Complete, Actions Ongoing**

The AER directed Shell to install the first perimeter monitor at the Waterton 68 well site before producing the Waterton 68 well, with the other perimeter monitors being installed after the start of production and testing of the initial perimeter monitoring system. The perimeter monitoring system at WT-68 is currently operational and is being piloted to test viability long-term and at other sites. Shell will continue to evaluate performance of the system over the coming months.

The following *Table 1: RWDI Recommendations Report* provides the most recent status of each of the nine RWDI recommendations, with updated information noted in purple font. Shell will continue to provide regular updates on these initiatives through the Waterton Advisory Group (WAG) meetings.

**2. RWDI Recommendations Progress Updates: Ongoing**

The progress of implementation of the RWDI Recommendations have been discussed at all WAG meetings since the approval of the Waterton 68 pipeline and facility on May 28, 2013.

- Attached please find the following WAG Meeting Minutes from the May 26, 2016 meeting:
  - *WAG 26May2016 Meeting Notes.pdf*

Development of new wells and infrastructure in the Waterton field is presented, when required, to the New Development Sub-Committee of WAG. The last NDSC meeting was October 14, 2015 and minutes were provided as part of the previous November 18, 2015 update to AER. The next meeting will be scheduled in advance of potential new development so the committee can be involved in early evaluation. Shell also provides a bi-monthly activity emails to all WAG members which includes the NDSC members to keep them informed of timely updates in Waterton.

- Attached please find the three email updates from 2016
  - May 13, 2016 – WAG Email Update
  - March 7, 2016 – WAG Email Update
  - January 15, 2016 – WAB Email Update

**Table 1: RWDI Recommendations Report**

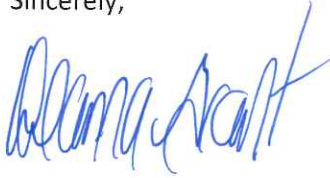
RWDI Recommendation Number	Recommendation Description <sup>a</sup>	Shell Updates (As of June 27, 2016)	Status
#1	A new meteorological station, properly sited with respect to fetch and exposure, is recommended for the Screwdriver Creek Valley (SCV). The utility of this station should be evaluated after one year. This station could be part of the continuous ambient air quality monitoring station in Recommendation #2.	<ul style="list-style-type: none"> <li>Shell retained RWDI to perform the one-year review for the SCV continuous air monitoring station.</li> <li>A report was prepared by RWDI in September, 2015. (See attached). Results and conclusions from the report were shared with WAG at the October 28, 2015 meeting. Although the RWDI report concluded that the station could be removed at Shell's discretion, Shell has decided to keep it operational for another year to support future development planning.</li> <li>The station will remain operational for another year, and Shell will continue to report out to WAG on the results (for example, the latest WAG air bulletin newsletter is attached which was included in the March 7, 2016 WAG Email Update).</li> </ul>	Complete
#2	Install a permanent continuous ambient station that monitors H <sub>2</sub> S and SO <sub>2</sub> and meets all ERCB/AESRD AMD measurement and reporting requirements. The utility of this station should be evaluated after one year. This station could include the meteorological station in Recommendation #1.		
#3	Four perimeter H <sub>2</sub> S monitors should be installed at each of the following six well sites: WAT junction, 6-16-6-2 W5M; TX-5-20, 5-20-6-2 W5M; TX-6-17, 6-17-6-2 W5M; WT-61, 10-7-6-2 W5M; WT-68, NE-1-6-3 W5M; and CA 6-12, 6-12-6-3 W5M.	<ul style="list-style-type: none"> <li>The perimeter monitoring system at WT-68 is currently operational and is being piloted to test viability long-term and at other sites.</li> <li>Shell had the monitoring equipment provider onsite to do some systems maintenance and testing in June, 2016. Shell will continue to evaluate performance of the system over the coming months.</li> </ul>	Ongoing
#4	Consider relocating the existing DAP unit to locations in the SCV that are downwind of sites where flaring activities are taking place in order to self-monitor and evaluate the downwind concentrations from these activities, or not use the units at all.	<ul style="list-style-type: none"> <li>The DAP unit was removed from operation the week of December 7<sup>th</sup> 2015 (however, the AGAT-operated SCV continuous air monitoring station, as referenced in Recommendations #1 and #2 above, is still operational and results will continue to be shared through WAG).</li> </ul>	Complete
#5	Shell's participation in any future regional ambient air and environmental monitoring networks is		No Further Action

RWDI Recommendation Number	Recommendation Description <sup>a</sup>	Shell Updates (As of June 27, 2016)	Status
	recommended.		Required At this Time
#6	Post any new continuous H <sub>2</sub> S, SO <sub>2</sub> and meteorological measurements from the SCV to a shared website for public internet access based on averaging periods of 15-minutes, 1-hour and 24-hours and have the ability to generate summary reports.		Complete
#7	Summarize and make public the results of historical ambient monitoring readings in the Screwdriver Creek Valley area, including meteorological and continuous air quality data from 2008 onwards.		Complete
#8	Provide a public tour of the Shell Waterton Complex ambient station(s) and Control Room with demonstration of monitoring and alarm systems.		Complete
#9	Undertake a one-time ambient survey of common VOC's such as BTEX compounds at the Texaco 5-20, Texaco 6-17 and WT-61 well sites in the Screwdriver Creek Valley, at upwind and downwind locations on the lease boundaries, and compare the measured levels to their respective AAAQO and typical published levels.		Complete
NOTE: <sup>a</sup> For full details on the recommendations outlined herein, refer to the RWDI report entitled "Ambient Air Monitoring Program Design: Screwdriver Creek Valley" (dated December 5, 2012).			



We trust that this information meets your current needs. If you would like to further discuss the information contained herein, please do not hesitate to contact me by phone at 403-384-8216 or via email at [Deanna.Grant@shell.com](mailto:Deanna.Grant@shell.com).

Sincerely,

A handwritten signature in blue ink, appearing to read 'Deanna Grant', with a stylized, cursive script.

Deanna Grant, P. Eng  
Environment & Regulatory Team Lead  
Emerging Basins & Foothills  
Shell Canada Limited

**Waterton Advisory Group**  
**Meeting Notes – May 26, 2016**

**Attendees**

<b>Name</b>	<b>Organization</b>
Celissa Horvath	SASCI
Fraser Stewart	Resident
Ron Schmidt	Resident
David Green	SASCI / FCSS
Stuart McDowall	Resident
Nora Manners	Waterton Biosphere Reserve Association
Cliff Elle	Resident
Dick Hardy	Resident
Kim and Pat Hardy	Residents
Leo Reedyk	Councillor, MD of Pincher Creek No. 9
Jen Lough	Alberta Energy Regulator (AER)
Peter Argument	Shell (Waterton Plant Operations Manager)
Bryan Withers	Shell (Seismic Interpreter)
Torrie Turner	Shell (Production Geologist Advisor)
Reg McDonald	Shell (Mechanical Engineer)
Rob Emerson	Shell (Supervisor, Inspections and Drafting)
Luc Simon	Shell (Process Containment Integrity Inspector)
Stephen DeCock	Shell (Waterton Complex Environmental Coordinator)
Rod Sinclair	Shell (Waterton Community Affairs)
Patty Richards	Shell (External Relations)
Alyssa Marsden	Shell (External Relations)
Karla Reesor	Moving Forward Ltd.

*What follows is an informal summary of the topics and perspectives shared at a Waterton Advisory Group (WAG) meeting. WAG meetings are intended to supplement and not replace Shell's obligation to consult directly with affected stakeholders under the Alberta Energy Regulator's Directive 56. These Meeting Notes are a public document and the views shared within are the views of individuals and are not necessarily the consensus views of participants.*

**1. Introductions and Welcome**

- All participants introduced themselves.

**2. Operations Report**

Peter Argument reviewed operations for the field and the Waterton Complex for 2016 to date.

### Integrity and Odour Events

- Integrity events – 0 to date in May 2016.
- Odour Notifications – 1 to date in 2016; it was in May in the Seven Gates area.

### Traffic

- Traffic Notifications – 1 complaint to date in 2016, related to dust in the Seven Gates area.

## **3. Shell External Relations Update**

Rod Sinclair and Patty Richards provided an External Relations update.

### November 2015 Open House

- Approximately 75% rated the open house event at 4 or 5, on a scale of 1 (poor) to 5 (excellent) and over 85% felt that they received adequate information at the open house.
- Participants indicated they have a broad range of preferences for communications from Shell. Newsletters and open houses were the top rated choices.
- Shell generally sends out one newsletter each year, and Rod sends out updates by email every few months.
- Top areas of importance for attendees were groundwater, weed management, stakeholder consultation and emergency response.

### Discussion

- Shell staff noted that groundwater and weed management are the top areas of importance for communities where Shell operates around the world.
- Shell staff indicated that there could be an information item about groundwater protection at a future WAG meeting. Participants indicated that information on groundwater protection would be helpful.
- Shell discussed using social media for communication and emergency response. It was noted that social media has been very helpful in the Fort McMurray fires.
- No date has been set for the next open house.

### Westcastle Field Station

- Shell provided \$100K to the University of Lethbridge's Westcastle Field Station. The research building has been totally refurbished. Hummingbirds are one area of focus for the research centre.
- Information about the Field Station is provided here:

<https://www.uleth.ca/artsci/biological-sciences/westcastle-field-station>

#### **4. Shell Waterton Development Plans for 2017**

Bryan Withers provided an update on Shell's plans for the Waterton area.

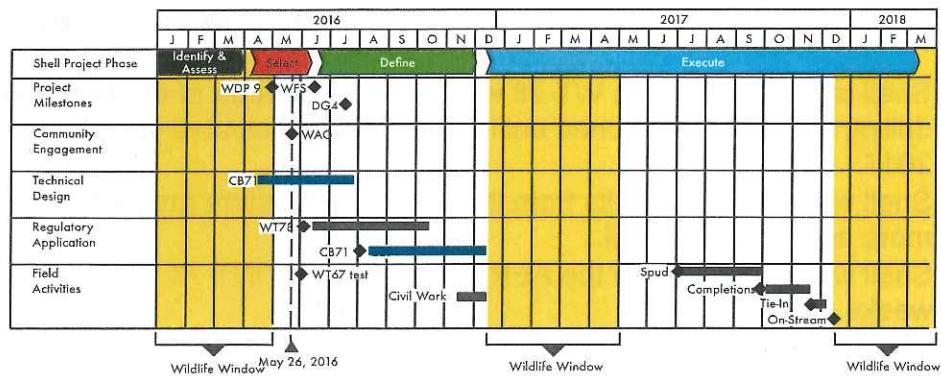
- Shell is progressing the WT-78 well in the south area of the field and drilling has been postponed until 2017; Shell anticipates spudding in July 2017.
- Shell wants to see results from the WT-67 well before progressing any more activity at that well.
- Shell will be applying to the AER for a license for WT-78 in the next few weeks.

#### **General Discussion:**

- It may be reasonable to estimate the life of the plant to be approximately a decade, acknowledging that it is dependent on commodity prices and field performance.
- A question was raised about the potential impact of LNG exports. There is currently a lot of stranded gas in the northeast U.S. waiting for pipelines. As pipelines are built, there may be an over-supply of gas that could further depress gas prices.
- Currently the gas from Waterton goes east; though, there was some discussion on the potential that the plant could become a straddle plant (to extract the liquids) and ship gas west if any of the west coast LNG projects come to fruition.



## WATERTON DEVELOPMENT – 2017 – NOTIONAL PLAN



### Planning Considerations

- Target spud summer 2017
- Wildlife zone restrictions, land use
- Technical work – Subsurface, well & facility design
- H2S Release rate pre-approval by AER
- Regulatory application review timeline
- Early engagement of multiple groups – Landowners, public, grazing assoc., Shell (Wells, Projects, Operations), etc.
- Use of New Development Sub-Committee for feedback

Shell Canada Energy

Waterton Advisory Group

May 25, 2010

2

## 4. Update on Waterton Pipeline Integrity

Luc Simon provided an update on the Waterton Integrity Management Program and results from the Technical Subcommittee (TSC) on Integrity Management. The TSC was formed in response to the approval conditions from the WT-68 regulatory hearing and committed to updating WAG regularly on pipeline integrity.

### Waterton Field Pipelines

- 265 km of operating sour gas pipelines; 18.5 km are internally lined.

### Pipeline Integrity Management (IMP) Program

- The IMP describes the processes and procedures used to ensure the integrity of pipelines through their full life cycle.
- IMP activities include:
  - Corrosion mitigation programs for external corrosion (cathodic protection) and internal corrosion (continuous and batch inhibitors)
  - Corrosion monitoring
  - Risk assessment and annual inspection plans
  - Pipeline in-line inspections (typically 14-18 pipelines per year)
  - External inspections (right-of-way aerial inspections and depth of cover).

- Shell's pipeline IMIP has standard procedures for:
  - Annual pipeline risk assessment
  - Pipeline Technical Authority approval of the Annual Inspection Plan
  - Monthly review of pipeline operation conditions
  - Quarterly meetings to review the program and evaluate changes per pipeline
  - If inspections indicate wall loss damage is significant, scheduling verification digs and implementing repairs if necessary
  - Revising mitigation programs based on continuous learning.

#### TSC on Integrity Management

- The TSC includes representatives from Shell and the AER, and meets as issues arise to provide timely review and input, and to report to WAG. The TSC is currently scheduled to meet annually.
- Shell continues to see low corrosion activity in the lined sour gas pipeline systems.
- Shell has maintained its new operating strategy and its inspection plan since the 2009 restarts. The 6-month inspection frequency provided much data on each of the lined pipelines that were approved for restart by the AER. In January 2014, the inspection frequency reduction to 2 years was approved by the AER.
- The next TSC meeting will be in Q4 2016.
- Monitoring and inspection summary from last TSC meeting:
  - Lined sour gas pipeline in-line inspections – no new corrosion detected
  - Bell hole and riser inspections – continue to see low corrosion  $\leq 0.2\text{mm/yr}$  – pipelines remain safe for operation
  - Guided Wave Ultrasonic Testing of Rilsan Lined Pipelines (2 yr interval); no corrosion detected
  - Annulus Pressure Monitoring Review
  - Reviewed CA-8 liner collapse for root cause analysis
  - Corrosion Monitor Devices – continue to see minor activity (max. of  $0.16\text{ mm/yr LTICR}$ )
  - In 2016, maintenance plan was revised to prevent liner collapse
  - In 2016, CR-8 and WT-63 in-line inspections were conducted in May.

#### Recent Pipeline Inspection Results and Pipeline Integrity

- Shell has had no pipeline integrity events (or leaks) since the last update to WAG.
- Steel sour gas pipelines – recent integrity work includes:
  - External corrosion in South Field
    - 2015 in-line inspection of CSW to Jct T 14": identified several locations requiring verification/validation.
    - The digs were completed in Q4 where 3 segments (totaling ~90m) were repaired.

- Internal corrosion in North Field
  - The 2015 ILI of Jct 6-12 to Jct K 8" identified several locations requiring verification/validation.
  - The digs were completed in Q3 where 3 segments (totaling ~35m) were repaired.
- 14 in-line inspections are being completed in 2016.
- In March 2016 Shell discovered an HDPE liner breach in the CR Jct 5-20 to WT-Jct 8in pipeline.
  - The 75m segment liner, V10 to CRLBV-3, was replaced in May 2016.
  - Causal analysis is in progress.
  - Prior to restart; a revised monitoring program will be implemented to prevent future liner collapse

#### **4. WAG Participant Updates**

##### **Synergy Alberta**

- The next Synergy Conference will be held in Calgary in November 2016.
- Further information about Synergy Alberta and materials from past conferences are available at <http://www.synergyalberta.ca>

##### **Waterton Biosphere Reserve**

- It was noted that there are two new biospheres in Canada – Beaver Hills (Elk Island National Park) and Tsá Tué (NWT).
- Information will be available on the Waterton Biosphere website about the AGM coming up on June.

##### **Alberta Energy Regulator (AER)**

- AER staff members have been working closely with local responders and provincial government representatives to respond to the fires in the Fort McMurray area.

##### **SASCI**

- SASCI continues to be engaged in facilitating community and business dialogue and is active in the Foothills Restoration Forum.

##### **Invasive Species**

- A resident noted that progress is being made on some invasive species in the area. The current Shell contractor is well informed and working hard to address the issues.
- Information about weed pulls is on the Waterton Biosphere Reserve website:

<http://www.watertonbiosphere.com/projects/sw-alberta-cooperative-weed-management-area/>



## Grant, Deanna SCAN-UPS/U/R

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**From:** Sinclair, Rod SCAN-ERD/A  
**Sent:** Friday, May 13, 2016 9:26 AM  
**To:** Anne Loosen; Anne Stevick; Argument, Peter SCAN-UPU/N/FW; Barrie and Grace Orich ; Behn Morris; Brent Barbaro; Carolyn Aspeslet (CCWC) ; Cliff Elle ; Darryl and Valerie Carlson ; David Green; David Green; Dick and Stephanie Hardy; Donna Zoller ; Drew Rendall; Fraser Stewart; Gary Mills; Gordon Petersen ; James Tweedie; Janet Casey; Judy Huntley ; Karen Rendall; Karla Reesor; Kim and Patsy Hardy; Kim Barbero; Kyra Dziedzic; Leo Reedyk; Murray and Susanne Kirby; Nora Manners; Norma Fairbairn ; Pat Neumann ; Paula Kersch; Phil Hazelton; Platman, Jennifer SCAN-ERD/A; Ron Schmidt; Sarah Spranza ; Tara Cryderman; Wendy Kay  
**Subject:** WAG Update

Hello Waterton Advisory Group -

Hope all is well and your spring has been good. I am sending you this with some updates regarding plans for the Waterton Complex for 2016.

### WAT-78

- We have made a decision to postpone drilling the WAT-78 well in our south field until 2017. However, to ensure we have flexibility in our timing for our next year and robust stakeholder consultation we are planning to submit our licence application for this project by late May of this year.

### DAR

- We have postponed the downhole abandonment of CA-6-12 located at the end of the 7 Gates Road and Wat-24 located at the front of Mill Creek Canyon until further notice. We will however move forward with the remediation and reclamation of the WAT-19 well site located due west of the Waterton Complex between Butcher and Carpenter canyons. This work will be scheduled to proceed early Spring thru late Fall.
- We drilled 6 new ground water monitoring wells approximately 1 km north east of the Complex as part of our Sulpholane ground water monitoring program. Tests from all 6 wells came back non-detect for Sulpholane.

### Complex Outage

- The Complex is moving forward with the development of its detailed plans for the planned total Complex outage scheduled to last approximately 28 days in May of 2017 to allow for scheduled maintenance and inspection activities.

### Environment

- We have kicked off our annual Fire Smart program to mitigate fire hazards around our field flaring sites
- Our vegetation management plan has been mobilized with the starting of our summer student weed picking program and All Terrain Vegetation Services Inc. a subsidiary of Bruder Spaying.



- All “seasonal gates” within the Castle access management plan across the Waterton gas field under government ( ASRD ) jurisdiction have been opened as of May 1<sup>st</sup> and will be closed again on Dec 15<sup>th</sup>. The gate in to Carpenter Canyon will open June 15<sup>th</sup> until September 1<sup>st</sup>. All non-seasonal gates on Crown lands are left closed year round as part of the government Castle Access Management Plan.
- The University of Lethbridge and Shell Canada invite you to celebrate the reopening of the Westcastle Field Station Thursday, May 26, 2016 Noon | Tours to follow Lunch will be provided. There is no need to RSVP but for more information, please contact University Advancement at [advancement.events@uleth.ca](mailto:advancement.events@uleth.ca) or call 403-329-2582.  
Directions: Take Hwy 6 toward Pincher Creek. Turn right onto 507 to head toward Beaver Mines and Castle Mountain Resort. At T-junction, turn left onto 774. Pass through Beaver Mines and head toward Castle Mountain Resort

### **Pipeline inspections**

- As part of our annual pipeline inspection and integrity program we will be inspecting the lined pipelines in the Castle gathering system using the Russell Tool technology. This work is scheduled to start after the long weekend in May and last approximately 3 weeks.
- As part of our pipeline integrity inspection operation and maintenance processes an issue with a small section of the internal liner of one of our lined pipelines in the Castle gathering system was detected and repaired over the past month.  
No integrity issues were detected as part of the repair and inspection of the pipeline.

### **TX-A-3-4 well site pipeline resumption**

- We submitted an application to the Alberta Energy Regulator for the resumption of a small portion of existing pipeline that was suspended for the repair of the internal liner over late 2015 early 2016.

### **General Information**

If you know of neighbors or friends who are interested in receiving these updates, or if you would like to unsubscribe please get in touch with Rod Sinclair through email at [rod.sinclair@shell.com](mailto:rod.sinclair@shell.com) or by phone at 403-627-7282.

As always, if you have any questions, please do not hesitate to contact me.

### **Rod Sinclair Community Liaison Officer**

*My journey is not to arrive at my grave site rested and in a well preserved body.....but rather to skid in, jump off my horse and shout.....YAHOO.....what a ride!!*

Shell Canada Energy  
PO Box 1088, Pincher Creek, Alberta T0K 1W0, Canada

**Tel:** +1 403 627 7282

**Email:** [Rod.Sinclair@shell.com](mailto:Rod.Sinclair@shell.com)

## **Grant, Deanna SCAN-UPS/U/R**

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**From:** Sinclair, Rod SCAN-ERD/A  
**Sent:** Thursday, March 10, 2016 8:03 AM  
**To:** Platman, Jennifer SCAN-ERD/A  
**Subject:** FW: WAG Email update  
**Attachments:** Waterton Advisory Group Air Bulletin\_01Mar16.pdf

As requested.

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**From:** Sinclair, Rod SCAN-ERUR/U

**Sent:** March-07-16 8:29 AM

**To:** 'Anne Loosen'; 'Anne Stevick'; Argument, Peter SCAN-URU/N/FW; 'Barrie and Grace Orich'; 'Behn Morris'; 'Brent Barbaro'; 'Carolyn Aspeslet (CCWC)'; 'Cliff Elle'; 'Darryl and Valerie Carlson'; 'David Green'; 'David Green'; DeCock, Stephen SCAN-URS/U/CF; 'Dick and Stephanie Hardy'; 'Donna Zoller'; 'Drew Rendall'; Fisher, Allison L SCAN-URS/U/R; 'Fraser Stewart'; 'Gary Mills'; 'Gordon Petersen'; 'Grant, Deanna SCAN-UAS/E/CAON ([Deanna.Grant@shell.com](mailto:Deanna.Grant@shell.com))'; 'Janet Casey'; 'Judy Huntley'; 'Karen Rendall'; 'Karla Reesor'; 'Kerry Brown'; 'Kim and Patsy Hardy'; 'Kim Barbero'; 'Kyra Dziedzic'; 'Leo Reedyk'; 'Murray and Susanne Kirby'; 'Naomi Sanderson'; 'Nora Manners'; 'Norma Fairbairn'; 'Pat Neumann'; 'Patty Richards'; 'Paula Kersch'; 'Phil Hazelton'; Polvi, Steve SCAN-URU/N/FT; 'Ron Schmidt'; 'Sarah Spranza'; Sinclair, Rod SCAN-ERUR/U; 'Sine, Glen R SCAN-UAU/U/T'; 'Stuart McDowall'; 'Tara Cryderman'; 'Terry Gottenbos'; 'Tom McGee'; 'Wendy Kay'

**Subject:** WAG Email update

Hello Waterton Advisory Group -

Hope all is well and your winter has been good. I am sending you this with some updates regarding plans for the Waterton Complex for the start of 2016.

### **WAT-78**

- Shell has made a decision to postpone drilling the WAT-78 well in the south field until 2017. We will continue to move forward however with our stakeholder consultation and licence application. We will also continue to move our longer term development plan forward regarding our development options in the north field.

### **DAR**

- Shell has identified two potential wells as candidates for downhole abandonment for 2016. CA-6-12 located in the Screwdriver Creek valley at the end of the 7 gates road and Wat-24 located in Mill Creek Canyon. We will also move forward with the remediation and reclamation of the WAT-19 well site located due west of the Complex on the front face between Butcher and Carpenter canyons. This work will be scheduled to proceed early spring thru late fall.

### **Complex Outage**

- The Complex will be developing its detailed plans for the 2017 total Complex outage.

### **Weed Control**

- Our vegetation management plan will be implemented again this year regarding weed control using our summer student weed picking program and All Terrain Vegetation Services Inc. a subsidiary of Bruder Spaying.

### **Pipeline inspections**

- As part of Shell's Pipeline inspection and integrity program we will be inspecting the lined pipelines in the Castle gathering system using the Russell Tool technology. This work is scheduled to start after May 1<sup>st</sup> and last approx. 3 weeks.

#### **Screw Driver Creek Air Monitoring update**

- Attached is the latest update for the Screw Driver Creek Air Monitoring program

#### **General Information**

- If you know of neighbors or friends who are interested in receiving these updates, or if you would like to unsubscribe please get in touch with Rod Sinclair through email at [rod.sinclair@shell.com](mailto:rod.sinclair@shell.com) or by phone at 403-627-7282.

As always, if you have any questions, please do not hesitate to contact me.

**Rod Sinclair**  
**Community Affairs Associate**  
**Waterton Complex**

*My journey is not to arrive at my grave site rested and in a well preserved body.....but rather to skid in, jump off my horse and shout..... YAHOO.....what a ride!!*

Shell Canada Energy  
PO Box 1088, Pincher Creek, Alberta T0K 1W0, Canada

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**Email:** [Rod.Sinclair@shell.com](mailto:Rod.Sinclair@shell.com)





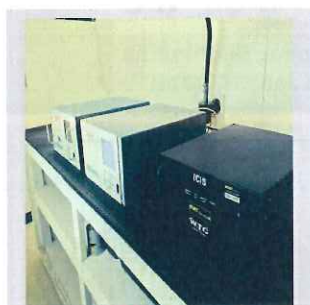
Shell Canada

## Screwdriver Creek Valley Air Quality Monitoring Station

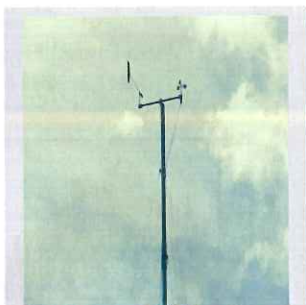
### Data Summary Report March 2016

#### Background

Based on recommendations arising from work completed with RWDI Air Inc. and the Waterton Advisory Group (WAG) in 2012 and 2013, Shell established a new continuous ambient air quality monitoring station in the Screwdriver Creek Valley area. The station was setup by AGAT Laboratories according to the Alberta Air Monitoring Directive requirements and began collecting data in March 2014. The station continuously measures sulphur dioxide ( $\text{SO}_2$ ), hydrogen sulphide ( $\text{H}_2\text{S}$ ), wind speed, wind direction, and atmospheric temperature. A summary of the most recent period of data available from AGAT Laboratories (March 21, 2014 to January 31, 2016) is provided herein.



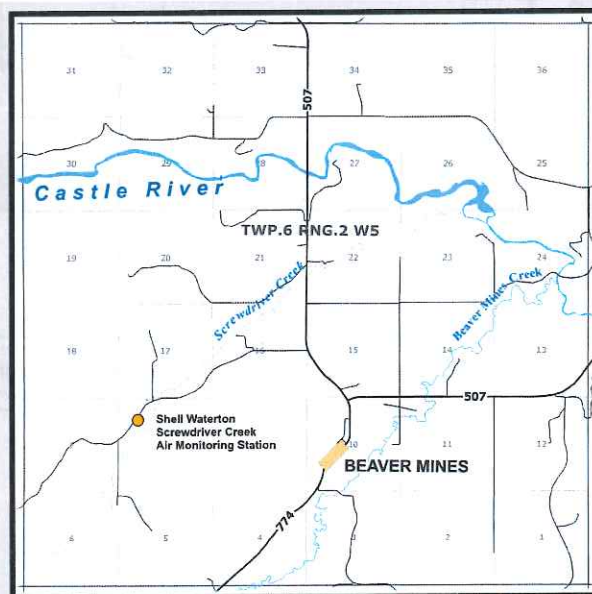
View of Analyzers from  
Inside the Station



10 Meter Tall Station  
Meteorological Tower



Screwdriver Creek Valley  
Continuous Air Quality Monitoring Station



Location of the Screwdriver Creek Valley  
Continuous Air Quality Monitoring Station

Graphs for  $\text{SO}_2$  and  $\text{H}_2\text{S}$  data are provided on the reverse.

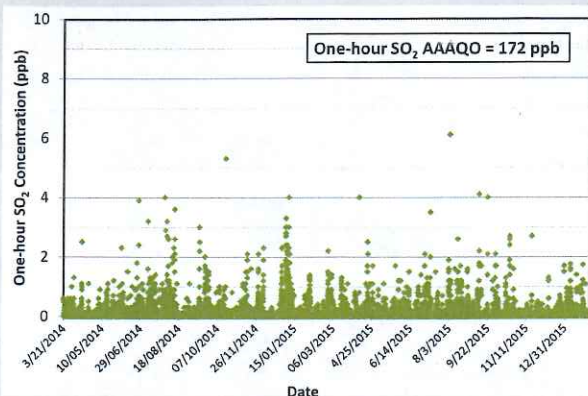
#### Air Quality Data Summary

Measurements show that the maximum one-hour  $\text{SO}_2$  concentration of 6.1 ppb was well below the applicable Alberta Ambient Air Quality Objective (AAAQO) of 172 ppb. Measurements show that the maximum one-hour  $\text{H}_2\text{S}$  concentration of 2.3 ppb was less than the applicable AAAQO of 10 ppb.

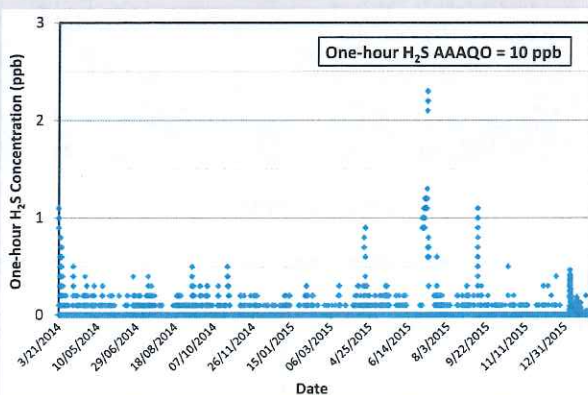
#### Meteorological Data Summary

During the data period, winds were primarily from the southwest, with speeds ranging up to 72 km/hr (20 m/s). Calm conditions (wind speeds of less than 1.8 km/hr or 0.5 m/s) were observed less than 4 percent of the time. Ambient air temperatures ranged from a low of -28 degrees Celsius to a high of 32 degrees Celsius over the data period.





**SO<sub>2</sub> Concentrations (Mar. 21, 2014 to Jan. 31, 2016)**



**H<sub>2</sub>S Concentrations (Mar. 21, 2014 to Jan. 31, 2016)**

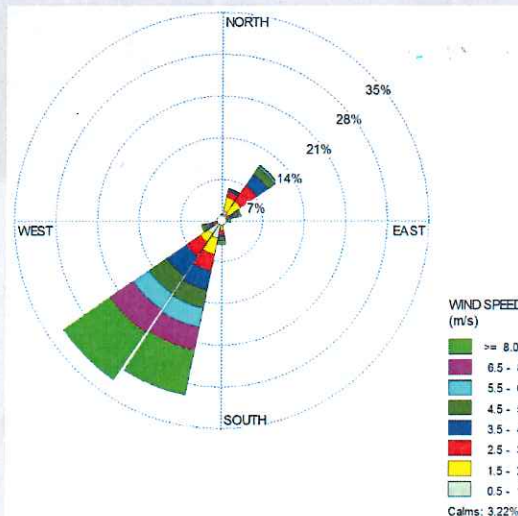
## Data Access

Raw air quality data for the station are available real-time online via the website below. Tables or graphs can be viewed and exported in either Excel or PDF format.

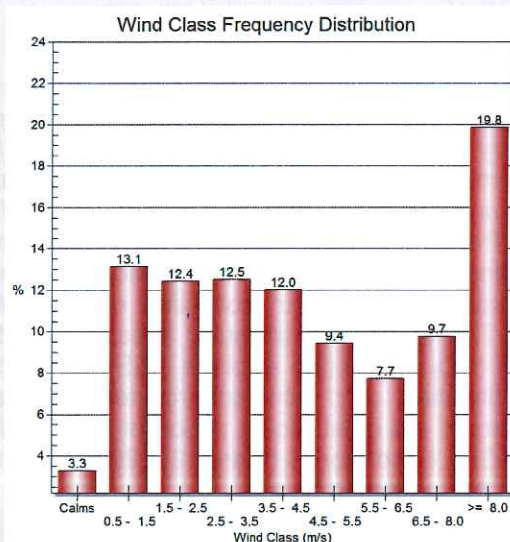
<http://aqm.agatlabs.com/>

## Ongoing Station Review

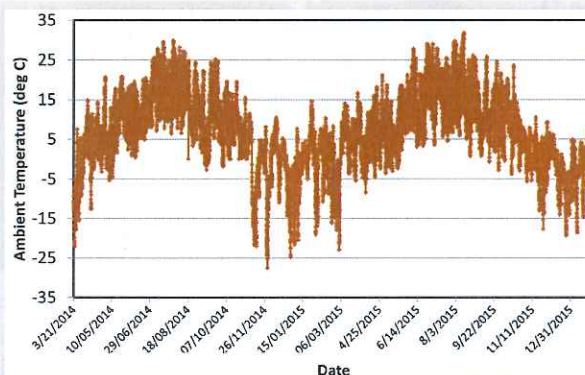
As per the RWDI Air Inc. recommendations, a detailed technical review was completed in 2015 on the full year of data collected. Results from the study were shared by RWDI Air Inc. at the October 28, 2015 WAG meeting. The study concluded that the station has not measured any exceedances of the AAAQOs and that it could be removed. However, Shell has decided to keep the station in place for the time being, and will periodically review the need for the station moving forward based on future development plans.



**Wind Rose Diagram (Mar. 21, 2014 to Jan. 31, 2016)**



**Wind Speed Frequency Distribution (Mar. 21, 2014 to Jan. 31, 2016)**



**Ambient Temperature (Mar. 21, 2014 to Jan. 31, 2016)**

*We welcome your feedback!*

*If you would like more details or if you have questions, please contact Rod Sinclair, Shell Waterton Community Liaison Officer at 403-627-7282, [rod.sinclair@shell.com](mailto:rod.sinclair@shell.com).*

## **Grant, Deanna SCAN-UPS/U/R**

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**From:** Sinclair, Rod SCAN-ERD/A  
**Sent:** Wednesday, January 20, 2016 11:59 AM  
**To:** Polvi, Steve SCAN-UPU/N/FT; Argument, Peter SCAN-UPU/N/FW; Sinclair, Rod SCAN-ERD/A; DeCock, Stephen SCAN-UPS/U/CF; Fisher, Allison L SCAN-UPS/U/R; Grant, Deanna SCAN-UPS/U/R; Prudom, Glenda SCAN-DMW/81; Minuk, Molly SCAN-UPS/U/R; Sanderson, Naomi SCAN-LSL/A; Gottenbos, Terry SCAN-UPU/L/CH; Richards, Patty SCAN-ERD/A; Platman, Jennifer SCAN-ERD/A  
**Subject:** FW: WAG email update

As promised this is the latest WAG email update I sent to the stakeholders and interested public.

Rod

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**From:** Sinclair, Rod SCAN-ERUR/U  
**Sent:** January-15-16 10:36 AM  
**To:** 'Anne Loosen'; 'Anne Stevick'; Argument, Peter SCAN-URU/N/FW; 'Barrie and Grace Orich'; 'Behn Morris'; 'Brent Barbaro'; 'Carolyn Aspeslet (CCWC)'; 'Cliff Elle'; 'Darryl and Valerie Carlson'; 'David Green'; 'David Green'; DeCock, Stephen SCAN-URS/U/CF; 'Dick and Stephanie Hardy'; 'Donna Zoller'; 'Drew Rendall'; Fisher, Allison L SCAN-URS/U/R; 'Fraser Stewart'; 'Gary Mills'; 'Gordon Petersen'; 'Janet Casey'; 'Judy Huntley'; 'Karen Rendall'; 'Karla Reesor'; 'Kerry Brown'; 'Kim and Patsy Hardy'; 'Kim Barbero'; 'Kyra Dziedzic'; 'Leo Reedyk'; 'Murray and Susanne Kirby'; 'Nora Manners'; 'Norma Fairbairn'; 'Pat Neumann'; 'Paula Kersch'; 'Phil Hazelton'; Polvi, Steve SCAN-URU/N/FT; 'Ron Schmidt'; 'Sarah Spranza'; Sinclair, Rod SCAN-ERUR/U; 'Sine, Glen R SCAN-UAU/U/T'; 'Stuart McDowall'; 'Tara Cryderman'; 'Tom McGee'; 'Wendy Kay'  
**Subject:** WAG email update

Dear all:

Wishing you all a Happy New year and a safe and prosperous 2016.

As a reminder, you are receiving this e-mail as a result of collaborative discussions with the Waterton Advisory Group (WAG) as we look for more opportunities to share information with you about Shell's activities in the area.

### **Shell Open House**

- Shell had a successful Open House at Twin Butte on November 26<sup>th</sup>. Approximately 50 people from the community attended. Topics shared consisted of development plans for the Waterton asset, social investment, reclamation, consultation and general questions and inquiries.

### **South Field Pipeline inspection repairs**

- As a result of Shell's Pipeline inspection and integrity program we identified three locations on the 14" pipeline from Yarrow canyon that required further inspection and repairs for external corrosion and depth of cover. These were successfully completed prior to the end of December 2015.

### **Emergency Response Training**

- Shell sent 5 individuals for ICS 300 ( Incident Command System ) training recently to enhance our emergency response team expertise.



### Waterton 77 well

- Completed a successful downhole intervention to enhance production.

### EPEA Renewal

- Shell submitted our EPEA (Environmental Protection Enhanced Act) renewal application to the regulator in December 2015 for approval. We expect to receive our approval sometime in the first quarter of 2016.

### Waterton 78 well

- Consultation is ongoing with stakeholders including First Nations. Shell is hoping to have this stage of the project complete by Q1 2016. Once this phase of the process is complete Shell plans to submit an application to the AER (Alberta Energy Regulator ).

### Well delivery interventions

- Shell is planning on doing some downhole well intervention work to enhance production on three wells in the. Wat-59 South field, WAT-29 Pincher Canyon and TX-6-17 Screw Driver Creek Valley.

### Condensate Odor Mitigation

- Enhancements to mitigate odors at the condensate loading facilities have been completed. New and improved scrubbers have been installed at the facility and we continue to monitor odor levels and make further improvements as required.

### Upcoming WAG meeting

- The next WAG meeting is set to take place in the Spring of 2016. We will notify everyone once we have settled on a date.

### General Information

- If you know of neighbors or friends who are interested in receiving these updates, or if you would like to unsubscribe please get in touch with Rod Sinclair through email at [rod.sinclair@shell.com](mailto:rod.sinclair@shell.com) or by phone at 403-627-7282.

As always, if you have any questions, please do not hesitate to contact me.

**Rod Sinclair**  
**Community Affairs Associate**  
**Waterton Complex**

*My journey is not to arrive at my grave site rested and in a well preserved body.....but rather to skid in, jump off my horse and shout..... YAHOO.....what a ride!!*

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