



Part One

Distance to the nearest occupied dwelling: 500 m

Distance to the nearest public facility: 500 m

The applicant is a good standing member of a Spill Response Unit:

YES ☒ NO ☐ N/A ☐

☐ New Licence

☐ Temporary to Permanent Facility

☒ Licence Amendment

WPF 2006-02
licence number

Facility Location

6 29 022 06 W 2 M
LSD SEC TWP RGE

Lease Size: 38 acres ha

MRO: _____
(if applicable)

SER Designated Field Area:

☐ Lloydminster

☐ Kindersley

☐ Swift Current

☒ Estevan

SER Facility Type Code:

1) WPF 2006-02

2) _____

3) _____

4) _____

Description of Facility Type:

Salt Cavern disposal / recovery facility

Total Design Inlet Rates

Raw Gas

_____ $10^3 \text{ m}^3/\text{d}$

Oil/Condensate

_____ m^3/d

Water

_____ m^3/d

Sulphur

_____ t/d

Estimated Total Recovered Products
(Gas processing plants only)

Sales Gas

_____ $10^3 \text{ m}^3/\text{d}$

C₂

_____ m^3/d

C₃

_____ m^3/d

C₄

_____ m^3/d

C₅+

_____ m^3/d

Sulphur

_____ t/d

C₂ + mix

_____ m^3/d

LPG mix

_____ m^3/d

C₂ Component of C₂ + mix

_____ m^3/d

Sweetening Process: ☐ Regenerative ☐ Nonregenerative ☒ N/A

Acid Gas Volume: _____ $10^3 \text{ m}^3/\text{d}$

H_2S Content of Acid Gas: _____ mol/kmol

Acid Gas Recovery Process: ☐ Sub-surface Injection ☐ Sulphur Recovery ☐ Flaring ☐ Incineration ☐ H_2S Scavenger
☐ CO_2 Venting ☐ Others (specify) _____

Sulphur Treatment/Recovery Process: ☐ Claus ☐ CBA ☐ MCRC ☐ Superclaus
☐ Sulfreen ☐ Others (specify) _____

Sulphur Recovery Efficiency _____ % ☐ N/A

Maximum H_2S Content of Inlet Gas/Fluid: _____ mol/kmol Maximum Continuous Sulphur Emission Rate: _____ t/d

NO_x Emissions _____ kg/h CO_2 Emissions _____ t/d

Maximum Continuous Flaring/Incineration Rate _____ $10^3 \text{ m}^3/\text{d}$ Maximum Continuous Venting Rate _____ $10^3 \text{ m}^3/\text{d}$

Compressor Rating

Compressor Driver Power Source

NO_x Emission Rating

Natural Gas

Electric

Other

_____ kW

☐☐☐

_____ g/kWh

_____ kW

☐☐☐

_____ g/kWh

_____ kW

☐☐☐

_____ g/kWh

☐ Table Attached

_____ kW

☐☐☐

_____ g/kWh

_____ kW

☐☐☐

_____ g/kWh

Total Number of Compressors on site:

Natural Gas

Electric

Other

Total on-site Compressor Wattage:

_____ kW

_____ kW

Has an environmental site assessment been completed at the site of this facility?

YES ☒ NO ☐

If No, please complete the following questions:

1. Are you currently storing/using PCB containing equipment?

YES ☐ NO ☒

2. Are you currently storing/using asbestos containing equipment?

YES ☐ NO ☒

3. Have you ever had PCB spills in reportable quantity (1kg)?

YES ☐ NO ☒ Don't Know ☐

4. Is there open or buried earthen or flare pits?

YES ☐ NO ☒ Don't Know ☐

5. Are you currently storing Naturally Occurring Radioactive Materials (NORM)?

YES ☐ NO ☒

6. When was the last time a chemical sterilant was used at the facility?

_____ YEAR NEVER ☐ Don't Know ☐

COMPANY CONTACT INFORMATION

24 Hour Company Emergency Dispatch Number (if available): _____

Facility Operator/Contact Wade HillierWork Telephone 306-728-3636Fax 306-728-3660E-mail Address whillier@plainsenviro.com24 Hour Telephone 306-728-8280Emergency Company Contact (2) Scott TetherWork Telephone 306-728-3636Fax 306-728-3660E-mail Address stether@plainsenviro.com24 Hour Telephone 306-728-7096Emergency Company Contact (3) Brian HillierWork Telephone 306-533-3773Fax 306-543-2742E-mail Address bhillier@plainsenviro.com24 Hour Telephone 306-533-3773**LOCAL EMERGENCY CONTACT INFORMATION**Police/RCMP 911Fire Department 911SER Representative Dean PylupukSask Environment Wes Kotyk

Highways & Transportation _____

Watershed Authority _____

Rural Municipality City of Melville

I hereby certify that I am authorized to represent the above mentioned facility owner(s) and I certify that the information submitted herein is correct and accurate to the best of my knowledge.

Name Brian HillierTitle Vice PresidentSignature 

Date

2	0	1	3	0	9	1	6
YEAR				MONTH		DAY	



Standard Conditions and Approval Provisions

STANDARD CONDITIONS

1. This licence does not grant surface right of entry.
2. Construction on the facility shall be completed within two years from the date of issue.
3. Every operator shall notify the minister of the completion of the construction of the facility within 48 hours after the completion.
4. Licensee shall notify the rural municipality prior to starting construction.
5. Equipment spacing requirements must be met, in accordance with the Storage Standards Guideline S-01, Appendix 2.
6. Within 30 days after construction has been completed, the licensee must submit to the ministry an as-built equipment spacing diagram, a process flow diagram and an as-built survey (if different from the originals submitted).
7. Operators shall provide an appropriate secondary containment system for storage tanks in accordance with the Storage Standards Guideline S-01 and the facility must be constructed with a perimeter berm if prescribed by the minister.
8. Setback requirements must be met, in accordance to the Storage Standards Guideline S-01, Appendix 1.
9. If the facility has a total daily fluid design throughput less than 350 cubic metres, it must not be constructed within 100 metres of an occupied dwelling, public facility or urban centre. If the facility has a total daily fluid design throughput volume equal to or greater than 350 cubic metres but less than 500 cubic metres per day, it must not be constructed within 300 metres of an occupied dwelling, public facility or urban centre unless a request for an exemption is provided with the facility licence application and is subsequently approved by the ministry.
10. The following facilities:
 - a. an upstream facility with a total daily fluid design throughput volume greater than 500 cubic metres per day;
 - b. a compressor station with a combined power rating of the compressor(s) greater than 186.5 kw (250hp); or
 - c. a gas processing plant; or
 - d. a waste processing facility; or
 - e. any facility, excluding a satellite, where [H2S] concentration of inlet gas/fluid is equal to or greater than 10 mol/kilomol as measured at the source of emission or 0.01 mol/kilomol as measured at the edge of the lease; or
 - f. a facility venting and/or flaring greater than 900 cubic metres of gas per day;must not be constructed within 500 metres of an occupied dwelling, public facility or urban centre unless a request for an exemption is provided with the facility licence application and is subsequently approved by the department.
11. The facility must not be situated on land that floods more frequently than 1 in 100 years.
12. Oilfield waste management requirements must be met, in accordance with the Waste Management Guidelines, SPIGEC 1.
13. Ministry of the Economy (ECON) storage requirements must be met, in accordance with the Storage Standards Guideline S-01.
14. Upstream products or chemicals used in conjunction with the facility must be stored by methods prescribed by the minister.
15. Licensee must have a Corporate Emergency Response Plan (ERP) and a facility specific Emergency Response Information (ERI) form for each licensed facility. Corporate ERP's should be retained by the licensee in their corporate records and where appropriate at their licensed facilities. ERP's should not be submitted to Ministry of the Economy (ECON) head office in Regina. Digital copies of the ERP and facility specific ERI forms should be submitted to the appropriate ECON field office in electronic format.
16. In the event of an incident involving the facility, the Corporate ERP is to be followed by all parties.
17. The facility must meet all current TSASK, SaskPower, SaskEnergy, TransGas, Saskatchewan Watershed Authority, R.M., CSA, API, ULC, OH&S, Ministry of Environment and Ministry of Highways and Transportation standards and any other applicable standards.
18. The licensee of the facility must be a member in good standing with the local spill response unit.
19. Flaring and venting requirements must be met in accordance with the Associated Gas Conservation Standards, Directive S-10. For any sites that have combined routine flaring and venting volumes greater than 900 cubic metres per day, conservation economics must be evaluated and updated every 12 months. Licensees are not required to provide copies of evaluations to ECON unless requested. Upon request, licensee must provide the evaluation to ECON within 5 working days.
20. Flaring and incineration requirements must be met in accordance with Flaring and Incineration Specifications, Directive S-20. If applicable, a vapour recovery unit must be implemented at the facility.
21. Ministry of the Economy (ECON) production measurement requirements must be met.
22. Applicable facilities must comply with the Saskatchewan Upstream Petroleum Industry Guideline to Reduce Emissions from Glycol Dehydrators S-18 and submit an annual dehydrator benzene inventory list.
23. The licensee must obtain a facility ID from PETRINEX in accordance with section 105 of *The Oil and Gas Conservation Regulations, 2012*.
24. The licensee must comply with any special conditions that may be attached as Part Three of this licence.

APPROVAL OF LICENCE

Based on the information provided on the Upstream Oil and Gas Facility Licence [Part 1] Application, the conditions noted above and any additional conditions provided, this licence is approved pursuant to *The Oil and Gas Conservation Act and Regulations*.

Date of Issue

2	0	1	5	0	3	1	0
YEAR			MONTH			DAY	

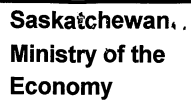
Licence Number(s) ✓

4	5	6	7
4	5	6	6

1W

Signed by:

Petroleum and Natural Gas



Petroleum and Natural Gas

Request For Exemptions

Are there any exemptions to the standard conditions as listed on part two of this application being requested? YES ☐ NO ☐

If Yes, please complete the table below and provide a written request outlining the reason an exemption is required.

Note: If there are any pre-approved exemptions regarding this licence, complete the table below and attach a copy of the exemption letter provided by ECON.

Standard
Condition #:

Explanation

April-14



Exemptions & Special Conditions

Licence Number: 4567

No Exemptions

SPECIAL CONDITIONS

1. WPF 2006-02 has been grandfathered into the facility licensing program. The facility licence is subject to the conditions specified in WPF 2006-02. WPF 2006-02 has been attached to the back page of the licence to reference the special conditions.



Exemptions & Special Conditions

Licence Number: 4566

No Exemptions

SPECIAL CONDITIONS

1. WPF 2006-02 has been grandfathered into the facility licensing program. The facility licence is subject to the conditions specified in WPF 2006-02. WPF 2006-02 has been attached to the back page of the licence to reference the special conditions.

APPROVAL NUMBER: WPF 2006-02

MINISTER'S APPROVAL

UNDER THE OIL AND GAS CONSERVATION REGULATIONS, 1985

TO OPERATE A WASTE PROCESSING FACILITY

Pursuant to section 108.2 of *The Oil and Gas Conservation Regulations, 1985* (the regulations), approval is granted to PLAINS ENVIRONMENTAL INC. (the company) to operate a Waste Processing Facility (the facility) located on Legal Subdivision 6 of Section 29, Township 22, Range 06 West of the Second Meridian, subject to the following conditions:

1. In order for the company to comply with all of the conditions specified in Saskatchewan Environment's Environmental Project Plan Review Clearance Letter titled, *Expansion of Acceptable Waste Streams, Plains Environmental's Melville Cavern Facility*, Project 2006-020 dated August 30, 2006, this approval rescinds and replaces Minister's Approval WPF 2004-02.
2. The company shall comply with all of the conditions specified in Saskatchewan Environment's Environmental Project Plan Review Clearance Letter titled, *Expansion of Acceptable Waste Streams, Plains Environmental's Melville Cavern Facility*, Project 2006-020 dated August 30, 2006.
3. The company is approved to receive, store, treat, recycle, dispose of or recover materials listed in Appendix 1, at the facility.
4. The company shall comply with all of the conditions specified in Minister's Order MRO 424/04 as amended from time to time.
5. The facility shall incorporate appropriate security measures to prevent unauthorized access. Warning signs that contain the operating company name, the legal land description and a 24-hour telephone number that can be used in the event of an emergency shall be posted.
6. Equipment spacing must conform to the regulations, except where permitted by written approval by Saskatchewan Industry and Resources (the department).
7. The company shall implement waste screening and recording procedures specified in Appendix 2.
8. Permanent groundwater monitoring wells shall be installed around the perimeter of the facility.

9. Any change(s) to the facility which may affect the overall process or impact the environment requires prior approval from the department and/or any other agency having jurisdiction in relation to the change(s).
10. The company shall conduct annual groundwater monitoring and test for pH, conductance, total dissolved solids, hardness, alkalinity (HCO_3 , CO_3), Ca, Mg, Na, K, Cl, SO_4 , NO_3+NO_2 and total extractable hydrocarbons.
11. The company shall test brine water and oil returns for specific radioactivity at least once a year. The results shall be compared to the existing background radioactivity levels established by past tests to ensure that the injected Naturally Occurring Radioactive Materials are not returning to the surface.
12. The company shall carry out regular inspections of the facility, containment systems and equipment for leaks or failures and conduct required pressure testing, mechanical testing and/or visual inspection of pipelines from the facility to the disposal well.
13. The company shall submit monthly reports to the Petroleum Statistics Branch of the department, detailing upstream waste receipts, inventories, dispositions, recovered crude oil volumes and any other information as requested.
14. The company shall submit a written report to the Manager of Environmental Affairs, Petroleum Development Branch annually on or before March 31, for the period from January 1 to December 31 of the preceding year, which shall include:
 - (a) description of abnormal occurrences and corrective measures;
 - (b) any documentation and testing results required in condition 7;
 - (c) groundwater monitoring data as required in condition 10;
 - (d) NORM testing and comparison results as required in condition 11; and
 - (e) maintenance and inspection records as required in condition 12.
15. The company shall decommission and conduct post closure monitoring in a manner acceptable to the department.

Dated at Regina, Saskatchewan, September _____, 2006.

Trevor Dark
Assistant Deputy Minister of Industry and Resources

Appendix 1 Wastes and Byproducts Acceptance List Criteria

Condition 1. Wastes and by-products which are acceptable:

- a. With exception of wastes specified in *Appendix 1 Condition 2*, the company may receive, treat, recycle, dispose of (via injection into the cavern) and recover the following wastes from in-province and out-of-province sources:
 - Hazardous and non-hazardous wastes and by-products generated from or associated with the upstream, mid-stream and downstream petroleum and petro-chemical industry that are compatible with the existing gas cavern injection and recovery operation.
 - Hazardous and non-hazardous hydrocarbon-contaminated wastes and by-products from the non-petroleum sector.
 - Hazardous and non-hazardous industrial wastes including:
 - Mineral oil, greases and lubricants,
 - Non-chlorinated solvents, sludges and organic solutions,
 - Paint wastes and sludges,
 - Ethylene glycol and glycol mixtures,
 - Creosote, creosote sludges and creosote-contaminated soils,
 - Fertilizer industry by-products,
 - Ethanol, bio-diesel, canola oil and fish oil processing wastes and similar materials and by-products, and
 - Metal-contaminated sludges from industrial sites, mining and transportation industries and gun ranges, and industrial sources.
 - The following specific leachable toxic waste substances may be received and disposed at the facility:
 - Materials contaminated with trace metals including barium, boron, cadmium, chromium, lead, mercury, selenium and arsenic;
 - Nitrates;
 - Benzyne, benzo-a-pyrene, creosols;
 - Non-chlorinated based organic substances; and
 - Non-pesticide based organic substances.
 - Naturally occurring Radioactive Materials (NORM) with a specific activity less than or equal to 300 kilobecquerels per kilogram per isotope.
- b. The company is responsible for complying with all applicable federal, international and other provincial regulatory requirements as it may pertain to all wastes originating from outside the province of Saskatchewan.

Condition 2. Wastes and by-products which are NOT acceptable:

- a. The company shall not receive or dispose of:
- Naturally Occurring Radioactive Materials (NORM's) with specific activity greater than 300 kilobecquerels per kilogram per isotope.
 - Any liquids or solids with polychlorinated biphenyl (PCB) concentrations greater than 5 milliliter per litre or 5 milligrams per kilogram.
 - Any liquids or solids with total organohalogen concentrations greater than 100 milliliter per litre or 100 milligrams per kilogram. For industrial effluent and surface water, the total organohalogen shall be measured as Adsorbable Organic Halides (AOX) quantified by Neutron Activation Analysis; for liquid solutions it shall be measured as Total Organic Halides (TOX) quantified by Neutron Activation Analysis; and for solids it shall be measured as Extractable Organic Halides (EOX) through extraction with appropriate solvent then quantified by Neutron Activation Analysis.
 - Any substances that are liable to spontaneously combust on contact with water.
 - Any substances that on contact with water emit flammable gases.
 - Any oxidizing substances and organic peroxides.
 - Any infectious substances and bio-medical waste.
 - Any household or municipal refuse, garbage or sewage.
 - All "leachable toxics wastes" listed in the Section 3.27 Table of *The Transportation of Dangerous Goods Regulations* except for those listed in **Condition 1a**. The leachate concentrations in the "leachable toxic wastes" shall be determined by using *U.S. EPA Toxicity Characteristic Leaching Procedure (TCLP)*, Test Method 1311.
 - Spent sweeteners, scavengers, amines and associated matrices or containers that can liberate unsafe amounts of hydrogen sulphide (as specified in *The Occupational Health and Safety Regulations, 1996*) into the working environment under normal operating conditions at the facility, unless proper control systems and mitigating factors are incorporated at the facility.

Appendix 2 Waste Screening and Recording Procedures

Condition 1. The company shall comply with the following minimum screening requirements:

- a. With exception of materials specified in *Appendix 2 Condition 2*, in-province upstream and mid-stream wastes or byproducts generated during normal (where it is reasonable to believe that the wastes and/or by-products are/were generated during what is normally accepted as standard industry practice and do not contain materials specified in *Appendix 1 Condition 2*) exploration, drilling, development, production, processing, transmission, transportation, storage, maintenance, operation, abandonment, decommissioning, reclamation, remediation and/or restoration of a well, well site or facility do not require to be tested or archived, unless otherwise specified by the department.
- b. With exception of materials specified in *Appendix 2 Condition 2*, out-of -province upstream and mid-stream wastes or byproducts generated during normal (where it is reasonable to believe that the wastes and/or by-products are/were generated during what is normally accepted as standard industry practice) exploration, drilling, development, production, processing, transmission, transportation, storage, maintenance, operation, abandonment, decommissioning, reclamation, remediation and/or restoration of a well, well site or facility shall be accompanied by reasonable documentation or verification to assure that materials specified in *Appendix 1 Condition 2* are not contained in the wastes or byproducts. A representative sample shall be taken from each load and held for a minimum period of three months upon reception of the wastes or the by-products.
- c. With exception of materials specified in *Appendix 2 Condition 2*, in-province and out-of -province downstream wastes or byproducts generated during normal (where it is reasonable to believe that the wastes and/or by-products are/were generated during what is normally accepted as standard industry practice) processing, transmission, transportation, storage, maintenance, operation, decommissioning, and/or remediation of a facility shall be accompanied by reasonable documentation or verification to assure that materials specified in *Appendix 1 Condition 2* are not contained in the wastes or by-products, unless otherwise specified by Saskatchewan Environment. A representative sample shall be taken from each load and held for a minimum period of six months upon reception of the wastes or the by-products.
- d. It is the company's responsibility to develop and implement screening process to ensure that wastes and by-products specified in *Appendix 1 Condition 2* are not processed or disposed of at the facility.

Condition 2. Mandatory Testing:

Upstream Waste	Screening Parameter and Acceptance Criteria	
	Total Activity ¹ <300kBq/kg per isotope	Sampling Frequency
NORM contaminated materials	required	each load

Legend:

¹Pre-screening analysis of the total activity conducted by qualified laboratory prior to receiving the material at the facility.

Condition 3. As a minimum requirement, the company shall test the wastes and by-products intended for injection into the disposal well for the following parameters:

Parameter	Injection Criteria	Testing Frequency	Sample Type
pH	2.0 - 12.5	monthly	weekly samples composited over one month
EOC	≤100 mg/L	monthly	weekly samples composited over one month
lead (leachate if sample is a solid)	≤5.0 mg/L	monthly	weekly samples composited over one month
mercury(leachate if sample is a solid)	≤0.1 mg/L	monthly	weekly samples composited over one month

Legend:

- EOC means extractable organic chloride using appropriate solvent extraction and clean-up procedure then quantified by neutron activation analysis.

Condition 4. NORM record keeping requirements as recommended by Saskatchewan Labour:

- a. Radioactive inventory for each NORM waste injection, including
 - date of injection and waste generator name,
 - radioactive concentration of each major NORM nuclides (from lab analysis),
 - total volume of waste injected, and
 - types of NORM waste injected (e.g., scale, sludge, soil).
- b. Radioactive inventory for each cavern until closure, including:
 - total activity of each major NORM nuclide, and
 - total volume of NORM injected.
- c. Surface facility radiological monitoring results, including:
 - date of sample collection and on-site location,
 - monitoring type (soil, dust, fence-line survey, cavern return fluids, groundwater),
 - radioactive concentration levels for target NORM nuclides, and
 - dose levels for fence-line surveys.
- d. Any other record-keeping requirements as identified in the **Technical Report on the Management of Naturally Occurring Radioactive Materials (NORM) in Waste.**