HUSKY ENERGY INC
ATTN: Chris Salewich
707 8 AVENUE SW
BOX 6525 STN D SW
CALGARY AB T2P 1H5

Date Received: 13-NOV-13
Report Date: 20-NOV-13 16:40 (MT)
Version: FINAL

Client Phone: 403-700-4780

Certificate of Analysis

Lab Work Order #: L1391577

Project P.O. #:	8400675388/ US-55463-02-01-DR-WM
Job Reference:	G/L ACCOUNT CODE 82250
C of C Numbers:	1
Legal Site Desc:	Husky Slater River Campsite

Karen O'Malley
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1391577-1 EFFLUENT DISCHARGE							
Sampled By: Kyle Arsenault on 13-NOV-13 @ 09:15							
Matrix: water							
Miscellaneous Parameters							
Fecal Coliforms	<1		1	CFU/100mL		14-NOV-13	R2742502
Oil and Grease	2.6		1.0	mg/L		16-NOV-13	R2743068
Special Request	See Attached					14-NOV-13	R2746089
Total Suspended Solids	<3.0		3.0	mg/L		16-NOV-13	R2743000
pH	5.05	RRV	0.10	pH		15-NOV-13	R2742500

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
FC-MF-YL	Water	Fecal Coliform	APHA 9222D
OGG-LLE-ED	Water	Oil and Grease-Gra	APHA 5520 B HEXANE MTBE EXT. GRAVIME
PH-ED	Water	pH	APHA 4500 H-Electrode
All samples analyzed by this method for pH will have exceeded the 15 minute recommended hold time from time of sampling (field analysis is recommended for pH where highly accurate results are needed)			
SOLIDS-TOTSUS-ED	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
SPECIAL REQUEST-TG	Misc.	Special Request Taiga Yellowknife	SEE SUBLET LAB RESULTS

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, CANADA
TG	TAIGA ENVIRONMENTAL LABORATORY (INAC)
YL	ALS ENVIRONMENTAL -YELLOWKNIFE, NORTHWEST TERRITORIES CANADA

Chain of Custody Numbers:

1

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L1391577 Report Date: 20-NOV-13

Client: HUSKY ENERGY INC
707 8 AVENUE SW BOX 6525 STN D SW
CALGARY AB T2P 1H5
Contact: Chris Salewich

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
FC-MF-YL	**Water**							
Batch R2742502								
WG1789124-2 DUP		**L1391577-1**						
Fecal Coliforms		<1	<1	RPD-NA	CFU/100mL	N/A	50	14-NOV-13
WG1789124-1 MB								
Fecal Coliforms			<1		CFU/100mL		1	14-NOV-13
OGG-LLE-ED	**Water**							
Batch R2743068								
WG1789662-2 LCS								
Oil and Grease			94.0		%		70-130	16-NOV-13
WG1789662-1 MB								
Oil and Grease			<1.0		mg/L		1	16-NOV-13
PH-ED	**Water**							
Batch R2742500								
WG1788822-3 LCS								
pH			7.00		pH		6.9-7.1	15-NOV-13
SOLIDS-TOTSUS-ED	**Water**							
Batch R2743000								
WG1789506-3 DUP		**L1391577-1**						
Total Suspended Solids		<3.0	<3.0	RPD-NA	mg/L	N/A	20	16-NOV-13
WG1789506-2 LCS								
Total Suspended Solids			94.0		%		85-115	16-NOV-13
WG1789506-1 MB								
Total Suspended Solids			<3.0		mg/L		3	16-NOV-13

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
pH							
	1	13-NOV-13 09:15	15-NOV-13 10:48	0.25	49	hours	EHTR-FM

Legend & Qualifier Definitions:

EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1391577 were received on 13-NOV-13 17:30.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 131022

- FINAL REPORT -

Prepared For: ALS Environmental

Address: 314 Old Airport Road
Unit 116
Yellowknife, NT
X1A 2R1

Attn: **Bradley Koswan** **Facsimile:**

Final report has been reviewed and approved by:

Angelique Ruzindana
Quality Assurance Officer

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: Wednesday, November 20, 2013
Print Date: Wednesday, November 20, 2013

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 131022

- CERTIFICATE OF ANALYSIS -

Client Sample ID: L1391577-EFFUENT DISCHARGE **Taiga Sample ID:** 001

Client Project:
Sample Type: Water
Received Date: 14-Nov-13
Sampling Date: 13-Nov-13
Sampling Time: 9:00
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Nutrients						
Biochemical Oxygen Demand	5	2	mg/L	14-Nov-13	SM5210:B	

ReportDate: Wednesday, November 20, 2013
Print Date: Wednesday, November 20, 2013

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 131022

- CERTIFICATE OF ANALYSIS -

Client Sample ID: L1391577-EFFUENT DISCHARGE **Taiga Sample ID:** 001

*** Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

ReportDate: Wednesday, November 20, 2013
Print Date: Wednesday, November 20, 2013

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # _____

Page 1 of 1

Report To		Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company:	Husky	☑ Standard ☐ Other	○ Regular (Standard Turnaround Times - Business Days)
Contact:	Chris Salewich	☐ PDF ☐ Excel ☐ Digital ☐ Fax	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	707 8 ave SW Calgary, Alberta T2P 1H5	Email 1: chris.salweich@huskyenergy.com	○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
		Email 2: stevesmith@envconsulting.com	◉ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	403-700-4780 Fax:	Email 3: labresults@marquisalliance.com	
Invoice To	Same as Report ? ☑ Yes ☐ No	Client / Project Information	Analysis Request
Hardcopy of Invoice with Report?	☐ Yes ☐ No	Job #: G/L Account Code 82250	Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:		PO / AFE: 8400675388/ US-55463-02-01-DR-WM	
Contact:		LSD: Husky Slater River Campsite	
Address:			
Phone:	Fax:	Quote #:	
Lab Work Order # (lab use only)		ALS Contact: Bruce Stuart	Sampler: ~~Carmen Perry~~ Kyle Arsenault

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	FC-MF-YL	TOTSUS	OGG (P)	BOD	pH	Number of Containers
	Effluent Discharge	13/11/13	0915	Water	X	X	X	X	X	4

HUSKY BILLING INFORMATION FOR MARQUIS ALLIANCE:
Approver #: 2Z-02006150
Cortex Requisition (Onsite Supervisor):
chris.salewich@huskyenergy.com
Unique ID: Slater River-Lab Testing Services Environmental
AFE#: US-55463-02-01-DR-WM / PO#: 8400675388
Surface: Construction AWR
G/L Account#: 82250
Marquis Alliance Technician Steve Smith 780-214-3217 (Please contact if you have any questions)
CONTRACT #:
All invoices and field tickets must have this information*
HUSKY BILLING INFORMATION FOR MARQUIS ALLIANCE:

L1391577-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

Any questions please contact Steve Smith @ 780-214-3217, Carmen Perry @ 778-872-0949 or Kyle Arsenault @ 250-263-1854.

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Kyle Arsenault	13/11/13	0930		13-Nov-13	1732	0.1 Corr °C				

GENF 18.01 Front