



Husky Oil Operations Limited

707 8th Avenue S.W.
Box 6525, Station D
Calgary, Alberta, Canada
T2P 3G7

Bus: (403) 298-6111
Fax: (403) 298-6378

April 15, 2014

Sahtu Land & Water Board
Box 1
Fort Good Hope, NT
X0E 0H0

SLWB File: S13L1-005
MWH File: 25500809

Attention: Ian Brown, Regulatory Specialist

Re: Husky Oil Operations Limited – 2012/2013 Annual Report for Water Licence S13L1-005 (Little Bear N-09, Little Bear H-64, and Wellsites O-14 and G-70)

Husky Oil Operations Limited (Husky) is submitting the following information in response to the requirements outlined under the Terms and Conditions of Water Licence (WL) S13L1-005 (associated Land Use Permit (LUP) S13A-002). Water Licence S11L1-003 (Little Bear N-09 and Little Bear H-64 Drilling, Testing and Completions Program) was consolidated into WL S13L1-005 which was issued on July 19, 2013. Due to this consolidation, this report includes information on WL S11L1-003 during the winter operational period from January to April 2013, associated with the N-09 and H-64 Testing and Completions program.

In addition, a Groundwater Baseline Drilling Program was conducted in the winter of 2013 (under LUP S12X-006). Since the water requirements to conduct that program were expected to be minimal no new water licence was required, rather water allocated to this WL (S13L1-005) was used for the Groundwater Baseline Drilling Program. Upon consultation with the Sahtu Land and Water Board (SLWB), it was agreed that water used for that program would be reported under S13L1-005. Waste reporting for the Groundwater Baseline Drilling Program was reported under LUP S12X-006 as per the terms of that permit.

Part B, Item (2) of the Terms and Conditions states that an annual report shall be supplied for the life of the water licence. For ease of review, the report has been presented in the same order as the terms listed within the SLWB WL.

Due to the water licence consolidation, the time period covered by this report is from April 1, 2012 to April 30, 2013.

a) The monthly and annual quantities in cubic metres of fresh water obtained from all sources:

After completion of the wellsite drilling phases during winter 2011/2012, the N-09 and H-64 wells were temporarily suspended. A completions program began in early 2013, which included hydraulically fracturing the formation of interest in N-09 and acid stimulation in H-64.

The total annual water budget from all sources was 11,300 cubic metres (m³). The total annual water withdrawn during the reporting period was 331m³, of which 187m³ of water was inadvertently withdrawn from Water Source (WS) 3 which is not an approved source under this WL but rather is approved under WL S11L3-002 (Access & Camp). Water was used for wellsite ice pad construction and the N-09 completions program. Water usage by month and water source has been summarized in **Table 1**; use from WS-03 has been highlighted in yellow.

Table 1. Water Use for 2012/2013 – Water Licence S13L1-005

Water Source / Month	Monthly Quantity Withdrawn (m ³)													Annual Quantity Withdrawn (m ³)	Approved Water Budget (m ³)	
	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13			
WS1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WS2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,450
WS3	-	-	-	-	-	-	-	-	-	-	187	-	-	-	187	-
WS4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WS5 (Contingent; not Included in Budget)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WS6	-	-	-	-	-	-	-	-	-	144	-	-	-	-	144	2,850
WS7 (Mackenzie River)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000
WS8*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WS9*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals	-	-	-	-	-	-	-	-	-	144	187	-	-	-	331	11,300

b) *The monthly and annual quantities in cubic metres of each and all waste(s) produced associated with exploratory drilling, including, but not limited to, Flowback Fluid, Drill Waste, and Produced Water:*

There were five waste streams associated with the wellsite completions program for winter 2012/2013 operations. These waste streams included completions wastes, industrial wastes, dehydrated liquids, sewage effluent, and domestic garbage and ash. Also included, is a summary of the substances and volumes used during drilling operations (**Table 5**).

Treated sewage effluent volumes for the wellsite camp wastewater treatment plants are reported under the annual report for WL S11L3-002 (Access & Camp).

Domestic garbage was collected from both wellsites and transported to the Completions Camp for incineration or disposal; this waste stream is also reported under the annual report for WL S11L3-002 (Access & Camp).

Completions waste was generated by the N-09 and H-64 wellsites. Wellsite N-09 was active from the end of January to March 2013. Wellsite H-64 was active from February to March 2013. These waste streams were transported and disposed of at approved facilities in Alberta and British Columbia. Refer to **Table 2** for a summary of these wastes. Mineral oil-based frac'ing fluid that were part of the flowback fluid wastes from N-09 were re-used on H-64, and were sent to MI SWACO in Alberta to be treated for re-use on future wells.

All wastes associated with the Groundwater Baseline Drilling Program were reported under LUP S12X-006 which was submitted to the SLWB on October 30, 2013.

Table 2. Completions Wastes for Wellsites N-09 and H-64, during Winter 2012/2013 Activities – Water Licence S13L1-005

Location	Waste	Jan-13	Feb-13	Mar-13	Annual Total (m ³)
Little Bear N-09	Waste Water	34.6 m ³	100.0 m ³	39.0 m ³	173.6 m ³
	Produced Oil	0.0 m ³	32.0 m ³	70.0 m ³	102.0 m ³
	Frac Oil	4.8 m ³	0.0 m ³	198.0 m ³	202.8 m ³
	KCL	0.0 m ³	0.0 m ³	58.5 m ³	58.5 m ³
Little Bear H-64	Produced Water	0.0 m ³	0.0 m ³	119.0 m ³	119.0 m ³
	Produced Oil	0.0 m ³	0.0 m ³	0.0 m ³	0.0 m ³
	Frac Oil	0.0 m ³	0.0 m ³	0.0 m ³	0.0 m ³
	Waste Water	0.0 m ³	0.0 m ³	10.0 m ³	10.0 m ³
	KCL	0.0 m ³	0.0 m ³	38.0 m ³	38.0 m ³

Industrial wastes generated through the operation of the wellsites are summarized in **Table 3**.

Table 3. General Industrial Wastes for Wellsites N-09 and H-64, during Winter 2012/2013 Activities – Water Licence S13L1-005

Location	Waste	Jan-13	Feb-13	Mar-13	Total	Annual Total (m ³)
Little Bear N-09	Wood	100 kg	100 kg	100 kg	300 kg	0.5 m ³
	Plastic	50 kg	50 kg	100 kg	200 kg	0.4 m ³
	Used Oil	100 L	400 L	100 L	600 L	0.6 m ³
	Oil Filters	25 kg	50 kg	25 kg	100 kg	0.1 m ³
	Metal	75 kg	75 kg	100 kg	250 kg	0.4 m ³
	Oily Rags	50 kg	60 kg	50 kg	160 kg	0.3 m ³
	Plastic Liner	0.0 m ³	0.0 m ³	30.0 m ³	30.0 m ³	30.0 m ³
Little Bear H-64	Wood	50 kg	50 kg	50 kg	150 kg	0.25 m ³
	Plastic	50 kg	50 kg	50 kg	150 kg	0.30 m ³
	Used Oil	10 L	100 L	20 L	130 L	0.13 m ³
	Oil Filters	10 kg	20 kg	20 kg	50 kg	0.04 m ³
	Metal	100 kg	100 kg	100 kg	300 kg	0.45 m ³
	Oily Rags	5 kg	50 kg	20 kg	30 kg	0.06 m ³
	Plastic Liner	0.0 m ³	0.0 m ³	15.0 m ³	15.0 m ³	15.0 m ³

A wastewater dehydration technology (using Steam Clean Units) was used to reduce the volume of contaminated water and liquids containing water. Boiler blowdown water, produced water and contaminated snow (from hydraulic oil or motor oil) was dehydrated. The resulting concentrate was then placed in drums and tanks, and transported for recovery

or disposal at an approved facility outside of the Northwest Territories. Refer to **Table 4** for a summary of the volumes of waste that were dehydrated on-site.

Table 4: Volumes of Liquid Wastes Dehydrated, from Wastes Produced at Wellsites N-09 and H-64 during Winter 2012/2013 Activities – Water Licence S13L1-005

Location	Jan-13	Feb-13	Mar-13	Annual Total
N-09	8 m ³	57 m ³	65 m ³	130 m ³
H-64	0 m ³	0 m ³	144 m ³	144 m ³

Table 5: Substances and Volumes Used to perform completion activities on the N-09 and H-64 wellsites in Winter 2012/2013 – Water Licence S13L1-005

Well	Product	Volume/Weight
N-09	B293 Oil Gelling Agent, LP	174 L
	B294 Activator	174 L
	B295 Breaker	492 L
	G100-002 Sand, 70 -140 Mesh, Premium API	2200 kg
	SF 800 Frac Oil DEFIT (m ³ pumped)	5.1 m ³
	SF 800 Frac Oil Annulus	29.0 m ³
	SF 800 Frac Oil Frac (m ³ pumped)	97.7 m ³
	Methanol	1.0 m ³
	N2	6,8000 SCM
	B293 Oil Gelling Agent, LP	1514 L
	B294 Activator	1380 L
	B295 Breaker	1660 L
	W060 Sludge and Emulsion Breaker	20 L
	G100-002 Sand, 70 -140 Mesh, Premium API	3000 kg
	SO12-4070 Sand, 40-70 Mesh, Premium API	40800 kg
	A264 Corrosion Inhibitor	5 L
	L058 Iron Stabilized	5 kg
	H020 Acid, Hydrochloric 20%	1.5 L
SF 800 Frac Oil Frac (m ³ pumped)	230.7 m ³	
H-64	Core-Tron R-2264 Champion Casing Inhibitor	167 L
	SF 800 Frac Oil	2.44 m ³
	H020 Acid, Hydrochloric 20%	7.10 m ³
	Methanol	1.0 m ³

c) Tabular summaries of all data generated under the “Surveillance Network Program”:

Under Part D, item 4 of WL S13L1-005, all freshwater-based surface drill fluids and solids shall be analyzed as per the Surveillance Network Program (SNP), prior to discharge. All other drilling wastes and fluids must be stabilized and removed for disposal to an approved waste disposal facility (refer to item (b) of this annual report for a summary of these wastes).

According to the annexed SNP, surveillance monitoring stations S13L1-005-1 and S13L1-005-2 are provided for wellsites Little Bear O-41 and Little Bear G-70 (approved, not drilled). As these wells have not yet been drilled, there is nothing to report at this time.

d) A summary of exploration and development activities as they relate to water use:

In winter 2011/2012 the drilling of two exploration wells, Little Bear H-64 and Little Bear N-09, was completed by Husky in order to assess the hydrocarbon potential of geological formations identified from a review of existing seismic records and offset well information. Geological and reservoir information collected from these two wells will be used to guide further exploration activities on Exploration Licence 494.

The wells N-09 and H-64 were drilled in 2012 then temporarily suspended. A completions program began in early 2013, which included hydraulic fracture treatment of the Canol/Hare Indian formations in N-09 and acid stimulation in H-64. Following the flow testing, downhole pressure recorders were installed in each of the wells and the wells were shut in. The recorders were retrieved in the summer of 2013 using a heli-portable wireline unit. N-09 was suspended on August 4, 2013 and H-64 on August 5, 2013. The program included the following components:

- Use of access along the Government of Northwest Territories (GNWT) winter road from Norman Wells to Tulia to the Mackenzie River, approximately 30 kilometres south of Norman Wells;
- Formation of an ice bridge across the Mackenzie River (covered under WL S11L3-002);
- Mobilization of completion and support equipment to the wellsites;
- Completion and flow testing at the two well sites,
 - Used oil-based hydraulic fracture treatment N-09
 - Used acid stimulation to evaluate the reservoir at H-64
 - Measurement and recovery of reservoir fluids
 - Collection and sampling of produced fluids
 - Installation of pressure recorders
 - Retrieval of pressure recorders in the summer of 2013
 - Suspension of both wells after retrieval of the pressure recorders
- Demobilization of equipment;
- Waste Management, including the dehydration of fluid wastes, and trucking of liquid and solids wastes off-site; and
- Clean up of the wellsites.

e) A list of unauthorized discharges:

Three spills, all below reportable quantities, occurred during the completions phase of the N-09 and H-64 wellsites. Refer to **Table 6** for a summary of these spill occurrences.

Table 6. Summary of all unauthorized discharges for Winter 2012/2013 Operations – Water Licence S13L1-005

Date Occurred	Location	Product	Volume Released	Description of Incident
01-Feb-13	N-09	Hydraulic Oil	20 L	Spill occurred during contractor operation of power tongs, which began to leak from the hydraulic filters, releasing hydraulic oil on the ground. Spill was noticed immediately and the unit was powered down. Absorbent pads and a vacuum truck were utilized to remove the snow and oil before the product could reach the ground beneath the rig. A dehydrator unit was used to remove the water content and the leftover oil was shipped south for recycling at an approved facility.
05-Mar-13	N-09	Contaminated water	20 L	A dehydrator unit flock tank, used to store contaminated water, was discovered with a leak. The contaminated water from the tank was removed and temporarily placed into another tank, until a replacement tank could be delivered via the winter road. It was determined that the leak was caused by a damaged fitting in the tank; the tank was shipped off-site for repair. The ice pad where the leak occurred was scraped clean with a loader and the contaminated snow was processed through the dehydrator.
21-Feb-13	H-64	Antifreeze (Glycol)	15 L	A coil tubing tractor trailer leaving site, en-route to N-09, failed to climb the hill at KM 38. The unit slid back down the hill and made contact with a parked trailer, at the bottom of the hill, causing the spill. The contaminated snow was cleaned up and stored in hazardous waste bags and was shipped south to an approved disposal facility.
		Motor Oil	4 L	
		Power-steering fluid	1 L	

f) The details and results of the required Annual Summer Site Inspection:

The 2013 Summer Site Inspection reports for N-09 and H-64 wellsites, and the Groundwater Baseline Drilling Program will be submitted under separate cover.

g) A lease well pad schematic:

For wellsites N-09 and H-64, refer to the Lease Layout Diagrams attached.

h) Details of all abandonment and restoration activities:

At the end of testing and completions operations in April 2013, all wastes generated during drilling were hauled to appropriate disposal facilities (refer to item (c) of this annual report). Further abandonment and restoration activities have not yet been undertaken for the N-09 and H-64 wellsites, or for groundwater monitoring stations (and wells), except for wells MW-06 and MW-19, which were abandoned after filling the borehole to surface with cement. This is discussed in more detail in the annual report for LUP S12X-006 which was submitted to the SLWB on October 30, 2013.

i) Any other details on water use or waste disposal requested by the Board by November 1st of the year being reported:

No additional requests pertaining to water use or waste disposal were made by the Sahtu Land and Water Board.

I trust that the above information meets the requirements for the annual report described in the Terms and Conditions of Water Licence S13L1-005. If you have any questions, please contact the undersigned at (403) 298-6655 or by email (Ken.Hansen@huskyenergy.com).

Sincerely,
HUSKY OIL OPERATIONS LIMITED

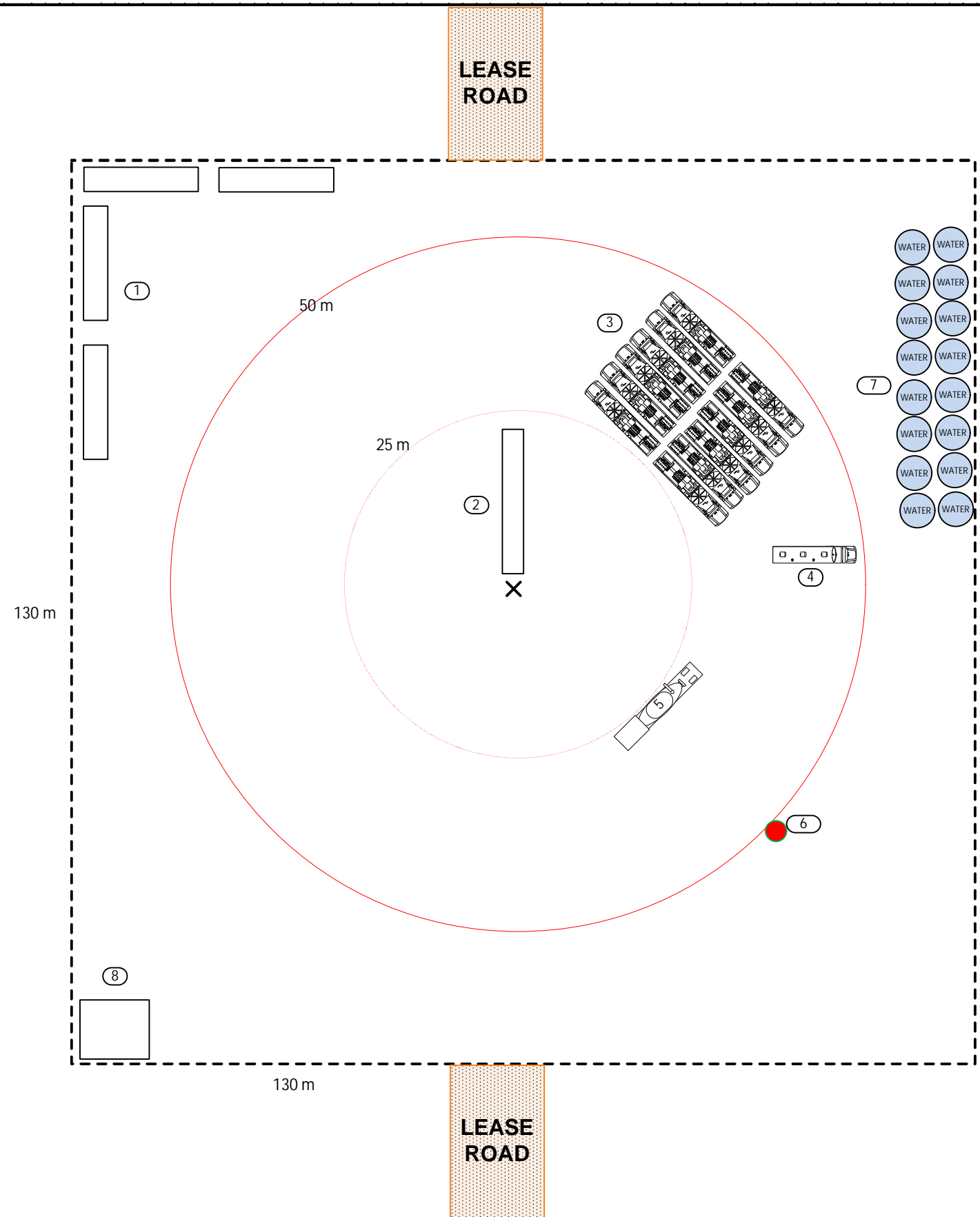


Ken Hansen
Project Manager - Slater River, NWT

cc: Jenica von Kuster, Husky
Darren Heck, MWH
Katie Ades, GNWT

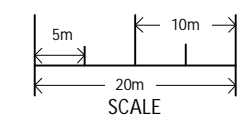
Attachments:

1. N-09 and H-64 Lease Layout Diagrams



- LEGEND**
- 1 Wellsite Shacks
 - 2 Service Rig
 - 3 Frac Pumper (12 total)
 - 4 Boiler
 - 5 Test Vessel
 - 6 Incinerator
 - 7 400 bbl Tanks
 - 8 Garage

- 25 meter radius barrier
- 50 meter radius barrier
- × Wellhead

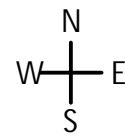


HUSKY LITTLE BEAR N-09
LEASE LAYOUT DIAGRAM

130 m x 130 m

COMPANY: HUSKY ENERGY
 LSD: HUSKY LITTLE BEAR N-09
 DATE: APRIL 4TH, 2014
 COMPLETED BY: DEVIN FRITZ
 REVISION: VERSION 1

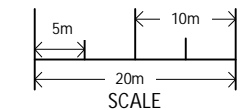
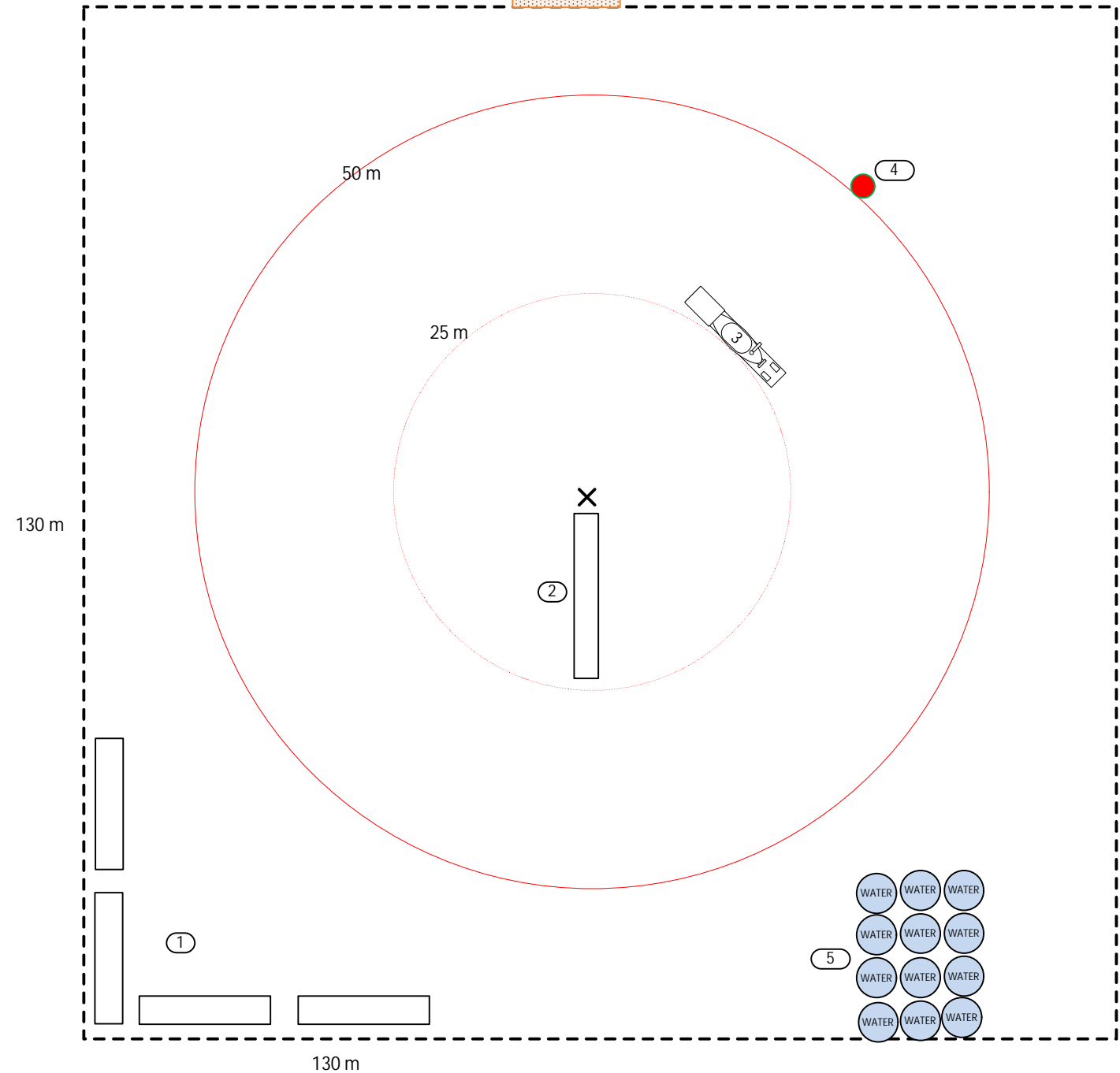
LEASE ROAD



LEGEND

- 1 Wellsite Shacks
- 2 Service Rig
- 3 Test Vessel
- 4 Incinerator
- 5 400 bbl Tanks

- 25 meter radius barrier
- 50 meter radius barrier
- × Wellhead



HUSKY LITTLE BEAR H-64
LEASE LAYOUT DIAGRAM

130 m x 130 m

COMPANY: HUSKY ENERGY
LSD: HUSKY LITTLE BEAR H-64
DATE: APRIL 4TH, 2014
COMPLETED BY: DEVIN FRITZ
REVISION: VERSION 1