CARBON LITE HEAT SOLUTIONS LTD.
PROPOSAL FOR SERVICES

Carbon Lite Heat Solutions will prevent and protect anything from freezing by providing heat through glycol circulation around exterior of Frac standing irons, hoses, wellheads, and trunk lines. Then insulate with foil to trap heat inside. Carbon Lite would provide Seven Generations with the same efficiencies experienced in summer months during the cold winter months when given the opportunity to rig up glycol and dry heat systems.

OVERVIEW

Carbon Lite Heat Solutions Ltd. is pleased to submit this proposal for services to support Seven Generations. Carbon Lite Heat Solutions Ltd. want to help Seven Generations achieve its goal for improving pumping efficiencies during winter months by providing a custom heating design for each pad site with its glycol heating & dry heat systems. Carbon Lite Heat Solutions will reduce the amount of costly boilers required. The cost of diesel is just a fraction when using glycol boilers compared to conventional steam boilers. Carbon Lite Heat Solutions is committed to improving 7G's experience through low cost convenience of constant heat, eliminating costly down time due to frozen equipment.

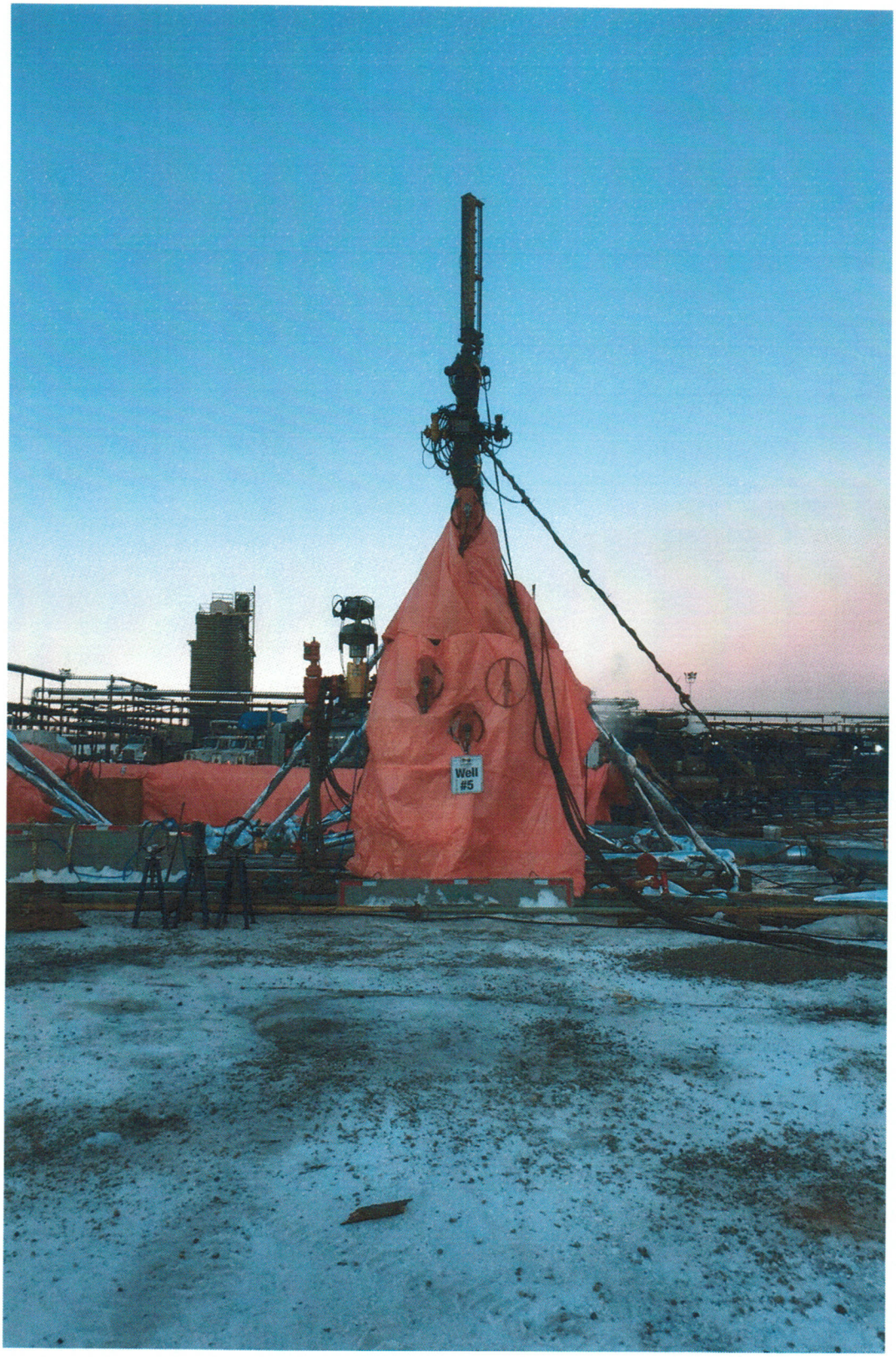
The Objective

- Maintain pumping efficiencies during winter months.
- Provide low maintenance heating system for anything that will freeze.
- Heating costs reduced with less fuel used by using more efficient units.

The Opportunity

We have proven over the past winter that pumping efficiencies were more efficient after Frac spread had all iron that couldn't be circulated effectively had constant heat applied to trunk – standing irons or mono line along with well heads.

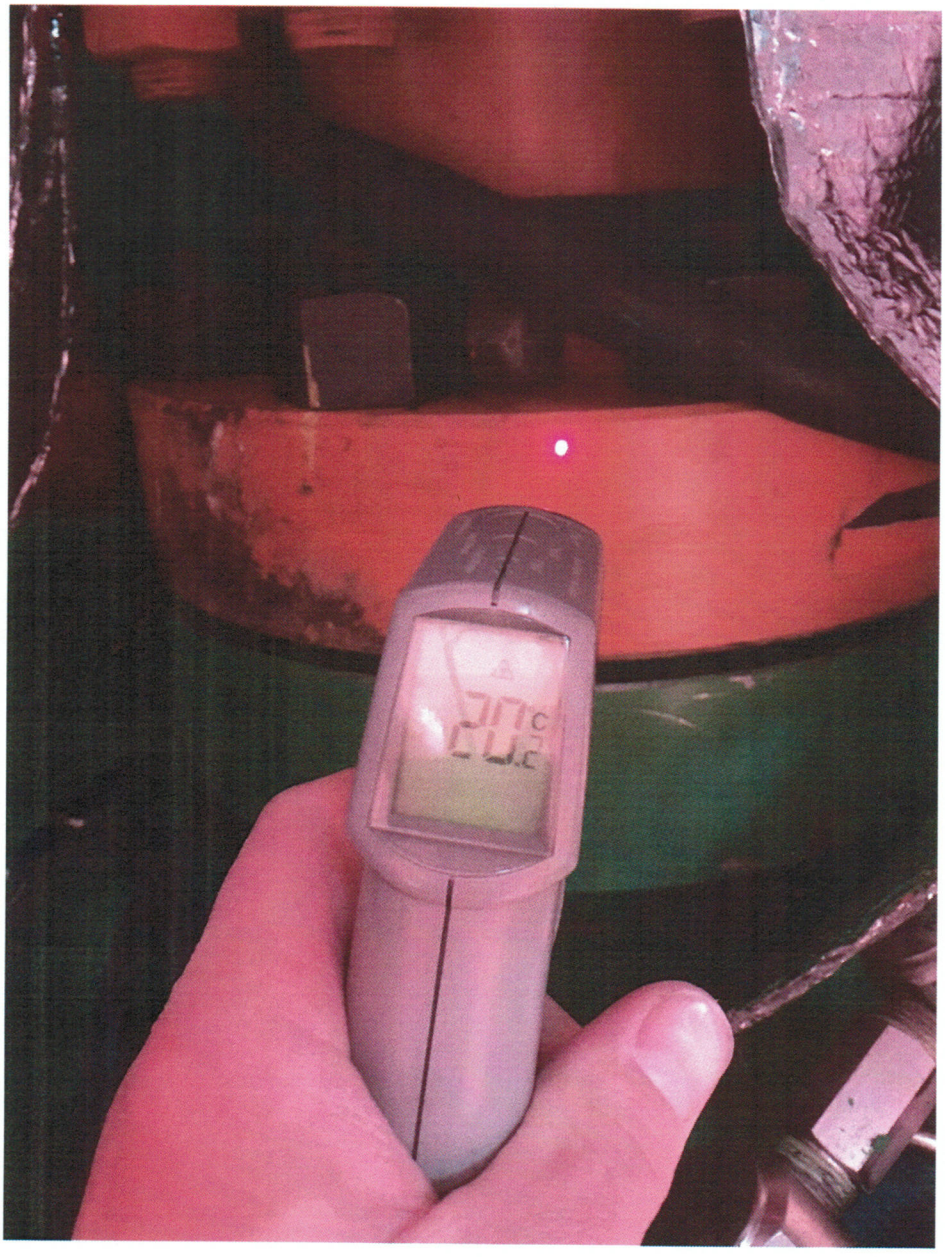
- Provide superior service based out of Grande Prairie without creating stress to client by providing efficient rig up.
- Avoid costly down time due to frozen iron / hoses.
- Glycol heaters proven to require half the diesel to operate daily compared to dry heat. Typically use 80 – 100 L in 24 hr. Dry heat units range from 180 – 200 L in a 24 hr. period.
- Environmentally friendly propylene glycol used in event of a release or spill. 150% containment built into all units. Containments tested with fresh water each season to ensure each unit is fully contained.
- Grande Prairie owned and operated with over 35 years of oilfield experience. Owners able to assist customer with needs and suggest the right solution for any project.
- Competitive pricing, cheaper solutions compared to using steam - dry heat to prevent wellheads, standing iron's, trunk and mono Frac lines from freezing.



Ball line wrapped with Steam back to fluid pumper, to eliminate cold methanol leaks when displacing frac balls.

Seven Generations. has a well-deserved reputation for being an industry leader in pushing the envelope in developing ways to be more efficient and cost effective. Carbon Lite would eliminate steam boilers previously used for wellhead heat at a fraction of the cost.

Example of job where once glycol lines were rigged in and wellhead tarped. This steam was rigged out.



-30 degrees ambient temp outside. 7G Pad 17. Feb 2017, Wellhead heating up after it was wrapped with Glycol lines and foil wrapped.

Rationale

After seeing firsthand the many issues Seven Generations faced with poorly designed frac setups in 2016, we started thinking of ways to be able to still utilize the trunk line to improve efficiencies, while maintaining a minimum of 10 m from any energized line while preventing anything from trunk to well head from freezing.

- Glycol wrap all standing irons. Foil wrap over glycol lines.
- We found this worked great. Return temp of glycol on return line still at 35 - 45 degree C.

Resources

We currently have glycol heaters and dry heaters fully serviced and ready for the winter project.

Supplied Material

The following materials are to be supplied by Seven Generations. for this project.

Materials to be supplied by Seven Generations.	Due Date*
Diesel fuel for Glycol and Dry heaters.	Filled once daily
Camp accommodations during setup days if required	Pre discussed

**We cannot be responsible for cost overruns caused by client's failure to deliver materials by agreed-upon due dates.*

EXPECTED RESULTS

We expect our proposed solution to provide the following results:

Financial Benefits

- Diesel consumption is 1/5th of what a boiler would use to heat same amount of equipment.
- Lower carbon foot print created on environment.
- Low maintenance, units serviced at start of project and can be ran for 3000 hrs before needing to be serviced.

Technical Benefits

- All glycol units come with 150% containment tested with fresh water prior to being put in service.
- All glycol lines run together and wrapped to prevent heat loss before reaching wellheads.
- Less washout's with Frac iron that stays at more consistent temperatures.
- Hydraulic quick connect hoses easily change out hoses or add as required.
- Wireline Hydraulic hoses for pack off wrapped together with glycol line, continuous circulation when stabbing in / out of Rig Lock system, no extra tangling of lines. No need to shut in steam, depressurize line before breaking connection. No need for anyone to be in "Hot Zone" with glycol line staying connected when coming on/off well.
- Heat trace and wrap suction hoses and manifolds at start of Pad, never drain hoses during extended maintenance breaks again, avoid causing additional slippery spots caused by heating with steam under tarps.

Safety Benefits.

- No potential steam burns or trip hazards created from steam soft spots.

PRICING

The following table details the pricing for delivery of the services outlined in this proposal. This pricing is valid for the remainder of 2017:

Equipment Cost for a (4 well pod) with trunk line manifold setup.	**Daily Price per unit**
Glycol Heater c/w 3000' of 5/8" Propylene Glycol filled line. (3 units)	$500.00
Dry Heater c/w 1 Canvas 'T' & 250' of 16" canvas ducting. (2 units)	$500.00
All Tarps included in rental (Hertz charges extra for each tarp on every job)	
Total Rental Equipment Costs per day.	$2,500.00
Services Cost	**Price per hour**
Travel charges FOB Grande Prairie.	$85.00
Supervisor service costs for rig up. (Hertz charges $100.00 / man / hr.)	$85.00
Labor service costs for rig up. (Hertz charges $100.00 / man / hr.)	$50.00
Note: All Parts & Materials required for rig up included in rental of units for job bigger than 2 weeks. Otherwise costs plus + 10%.	
Damaged or missing equipment (Signed off check list provided at job start)	**Replacement costs**
Note: Glycol units come complete with Hose crimp repair kits and additional parts for quick repairs onsite.	
Also offering 1 - Enclosed Enviro bin trailers & 1 - Enclosed Recycle trailers with 20% of bottles collected to be donated to customer's charity of choice.	**$120.00 / day for pair.**

Disclaimer: The prices listed in the preceding table are an estimate for the services discussed. This summary is not a warranty of final price. Estimates are subject to change if project specifications are changed or costs for outsourced services change before a contract is executed.

QUALIFICATIONS

Carbon Lite Heat Solutions Ltd. has the experience to be an industry leader for all your heating solutions in the following ways:

- Combined industry experience of over 35 years.
- Used other company's rental equipment to prove Glycol heat works well when rigged up properly.
- Grande Prairie based company providing quick and reliable service / solution to any situation.
- All Supervisors have been trained and have valid Genie operator certifications as well as bring required ladders.

CONCLUSION

We look forward to working with Seven Generations. and supporting your efforts to improve your pumping efficiencies by providing constant heat. We will provide a service that is substantially cheaper than other methods used in past. We are confident that we can meet the challenges ahead, and stand ready to partner with you in delivering an effective heating solution for any temporary lines.

If you have questions on this proposal, feel free to contact Alfred Peters at your convenience by email alfredpeters1980@gmail.com or by phone at 780-814-1840.

We will be in touch with you next week to arrange a follow-up conversation on the proposal.

Thank you for your consideration,

Alfred Peters - Carbon Lite Heat Solutions Ltd.

The Fusion 3000 raises the bar by being the first and only Hydronic heat system designed for cold weather concreting warming/curing

FUSION 3000

Stay ahead of cold weather construction

Site ready, this one touch start machine is a portable hydronic surface heat system with multi-tasking proficiency. Ground thawing, cold weather concrete warming/curing, pre pour warming, ground frost prevention and other heat applications for extreme cold. The Fusion 3000 maintains reliable performance throughout the Winter and comes with optional remote and auto control technologies.

Priced to perform

The reliability and versatility of this equipment virtually eliminates costly field service, repairs and credits to customers for down time. Added up, the Fusion line of equipment has the best dollar value for a rental house equipment line.

NEW SAFETY FEATURE

FLEX GUARD Guard Against Contamination Spills

The Fusion 3000 has a built in a spill containment, as well as safety sensors to shut the equipment down during a spill. Flex Guard comes standard– designed to hold 150% containment should an accident occur.

SPECIFICATIONS

Weight	8,295 lbs. (3,174 kg) (with Genset, fully fueled)
Length	178.5 in. (453 cm)
Width	96 in. (244 cm)
Height	91 in. (231 cm)
Tongue Weight:	1075 lbs (488 kg) (with Genset)
Fuel Capacity	170 Gallons (644 liters)
Fuel Requirements	#1 Diesel Fuel
Fuel Consumption	1.75 GPH burner nozzle, without generator (at full operation)
Boilers	One 280,000 Input BTU
Operating Temp	50°F – 190°F
Boiler Efficiency	87% (with fuel pre-heater)
Heat Transfer Fluid	80 US gallons (303 liters)
Heat Transfer Hose	3,000 ft. [4 x 750 ft.] x 5/8 in. ID, 914 m [4 x 69.49 m] x16 mm ID
Circulation Pump	One 3/4 hp
Fill Pump	One
Reserve Tank	15 gal. (57 liters)
Hose Reel	Direct drive, high/low speed, (forward & reverse) Freewheeling out and in reverse with soft start & stop
Space Heating	Up to 234,000 BTUs
Thaw Area	Up to 6,000 sq. ft.(557 sq m)
Cure Area	Up to 18,000 sq. ft. (optimal conditions slab on grade)

Save on man-hours with new applied technologies

Easily track your equipment and it's operation. Accurately control feed and return flow temperatures with MAX CURE

Shore Power Off?

Fusion 3000 can run uninterrupted with FlexTemp's FAIL SAFE back-up system.

EQUIPMENT SOURCE, INC.

ES700B

GENERATOR WITH INDIRECT OIL FIRED FORCED AIR HEATER

MODELS
ES700B, ES700B-E & ES700B-ED

pending
agency listing

SPECIFICATIONS

Heater:	Max burner output..... 770,000 BTU/HR
	Burner ..... Carlin 301CRD
	Heat exch. material ..... 309S Stainless
	Fan motor.....3hp, 208V
	Fan capacity.....4000 CFM @ 2.25 in. wg
Firing Rate:	Standard.....4.3 GPH [16.3 LPH]
	Minimum.....3.0 GPH [11.4 LPH]
	Maximum .....5.5 GPH [20.8 LPH]
Fuel Type:	ES700B & ES700B-E.....ULSD
	ES700B-ED ..... ULSD/Heating Oil
Fuel Storage:	Capacity.....240 GAL [910 L]
	Secondary containment 150%
	DOT Classification/Testing .....UN IBC
Generator:	Engine..... Kubota D1105
	Generator..... Mecc Alte
	Engine continuous power .....10.1 kW
	Main breaker rating 30A
	Voltage 208Y/120V
	Aux power 20A, 120V, 60Hz
Dry weight:	..... 4600 LB [2090 KG]
	With skid 101590 .....5050 [2290]
	With trailer 101159.....5950 [2700]

Equipment Source, Inc.
1010 SW 41st
Ph (877) 496-6119
Renton, WA 98057
equipmentsourceinc.com

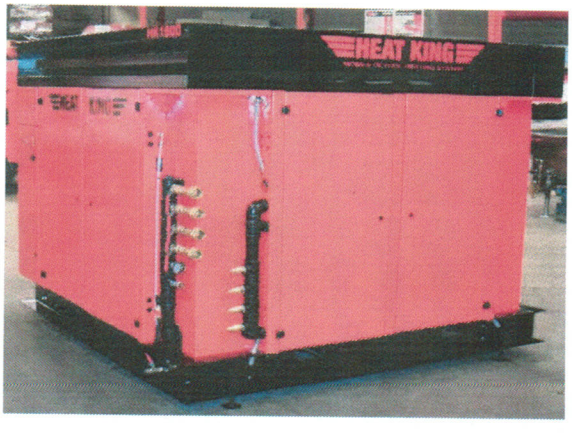
HEAT KING

(800) 661-0304
info@tamarack-ind.com

With over 20 years of Mobile Glycol Heating System design and manufacturing experience, and thousands of systems delivered, Heat-King is proud to introduce the HK1500. "The Cube" is the most versatile, powerful, and user friendly system ever to be brought to the market.

- Space Heating
  - Up to 1.4 million cubic feet of space heating
  - Connect up to 30 unit heaters to a single Cube
  - Pump up to 30 floors high with ease (55gpm flow at 300 feet!)
  - Connect to multiple floors and multiple rooms at a time with ease
  - "Plug & Play" Set Up means no special skills required
- Ground Thawing/Concrete Curing
  - With optional hose reel (24 x 700' hoses)
  - Thaw up to 34,000 sq ft of ground
  - Concrete cure up to 68,000 sq ft
- Versatility
  - Switch from Diesel to LP/Natural Gas
  - Add a hose reel for concrete curing
  - Add a generator for remote use
  - Add a trailer for ease of transport
  - Add a hose/remote manifold/unit heater package for space heating
- Simple to Operate
  - Often just one person required for set up
  - Generally no licensed or specially trained technician required for set up.
  - Rugged high pressure custom hoses on self-sealing hydraulic fittings minimize the risk of spills
  - The latest in Programmable Logic Controller Technology means that minimal input is required from the operator to manage flow and temperatures with different conditions
  - Multiple redundancy safety systems virtually eliminate the worry of operator error
  - Programmed variable frequency driven pumps manage flows and pressures to match the field requirements
  - Access to the unit is easy from all sides. Front side provides access to almost all elements.
  - Unit can be lifted from either side with forklift or craned from the bottom.
  - Three phase power supply for power from the grid or generation connection.
  - On board compressor blows out lines at the end of the job to ease removal of hoses and unit heaters
- Heat King's rugged coil design means
  - No Fire Box to damage during transport
  - No fire bricks to replace
  - Open to atmosphere so cannot be considered a boiler or pressure vessel
  - Over 85% efficiency

Technical specifications.



Thermal performance:
Nominal input heating capacity: 1.5 MMBtu/h. (378,000 Kcal/h)
Nominal output capacity: 1.29 MM (325,080 Kcal/h)
Nominal power consumption: 8.5 KW 3x208VAC/60Hz.
Diesel fuel consumption: 9.6 gph.(36.3 liter/hour)
Natural gas consumption: 37 m3/h @ 5".
Max temp target: 200 F (93c).
Min ambient temperature: -40F/ -40C.
Power Required: 208VAC 3Phase x 40A

Physical specifications:
LxWxH : 7'4" x 7'4" x 6' (2,235 x 2,235 x 1,800 mm)
Weight (2,600 lbs/4800lbs) (1180 /2180 Kg)
Glycol tank capacity: 217 US gal/ 840 liter.
System glycol capacity: 245 US gal/ 950 liter.
Notice: our constant drive to introduce newer technologies and improvements to our equipment, may result in specifications changes introduced without notice