

Appendix 7

Downhole Schematics and Program




Do It Once.
Do It Right.

Injection Proposal

Prepared for		Company	Date		
Mike Rushton		Fairborne Energy	6-Oct-09		
Well Name		Location	Type of Installation		
Sinclair		15-14-7-29W1M	Injection Well		
Depth	Drawing	Description	OD (mm)	ID (mm)	Length (m)
Vertical Section Build Section		Casing: 177.8 mm, 34.23 kg/m Injection String: 73.0 mm 9.67 kg/m J-55 EUE (SR222 Coated Tubing)			
		Note: TD: 2286 m			
		177.8 mm x 73.0 mm Fluted Swivel Centralizer (SR222 Coated)	150.00		
		73.0 mm x 3.0m long, 9.67 Kg/m, J-55 pup joint (SR222 Coated Tubing)			
		73.0 mm EUE Box X 88.9 mm EUE Pin Crossover (SR222 Coated)			
		Packers Plus "PL" On/Off Sealing Connector (Tri-Lug) (SR222 Coated) Size: 177.8 mm X 88.9 mm X 71.45 mm "X"	146.05	76.00	0.76
		Packers Plus Plus- 6 10 K Mechanical Set Liner Hanger Packer Size: 177.8 mm X 88.9 mm Elastomer: HSN	152.40	76.00	2.43
CE @ 1117.79m		88.9mm High Pressure P-110 Tubing Swivel	114.30	76.00	0.32
		88.90mm x 0.64m 13.84kg/m L80 Pup Joint	88.90	76.00	0.64
		4 Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	38.49
Casing Shoe at @ 1149 m		156 mm Open Hole Section			
Packer set 1167.80m		177.80 mm x 88.9 mm EUE RockSEAL II Hydraulic set open Hole Dual Element Packer c/w Full Shear (Note- High Pressure Trim P-110 c/w 'HSN' Elastomer) Metallurgy: 4140 30-36 Rc (P-110) Elastomer: HSN Threads: 88.9 mm EUE 8 Rd 177.8 mm x 88.9 mm Fluted Swivel Centralizer	146.05	76.00	1.29
		177.8 mm x 88.9 mm Fluted Swivel Centralizer	147.62	76.00	0.28
		7 Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	66.65
FracPORT set 1225.70m		88.9 mm EUE Heavy Duty P-110 Drillable FracPORT c/w 63.5 mm (2.50") Ball Seat for 69.85 mm (2.75") Actuation Ball 88.90mm x 0.64m 13.84kg/m L80 Pup Joint	114.30	63.50	0.76
		88.90mm x 0.64m 13.84kg/m L80 Pup Joint	88.90	76.00	0.64
		4 Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	38.42
Packer set 1265.86m		177.80 mm x 88.9 mm EUE RockSEAL II Hydraulic set open Hole Dual Element Packer c/w Full Shear (Note- High Pressure Trim P-110 c/w 'HSN' Elastomer) Metallurgy: 4140 30-36 Rc (P-110) Elastomer: HSN Threads: 88.9 mm EUE 8 Rd 177.8 mm x 88.9 mm Fluted Swivel Centralizer	146.05	76.00	1.29
		177.8 mm x 88.9 mm Fluted Swivel Centralizer	147.62	76.00	0.28

	4	Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	38.42
FracPORT set 1305.53m		88.9 mm EUE Heavy Duty P-110 Drillable FracPORT c/w 57.15 mm (2.25") Ball Seat for 63.5 mm (2.50") Actuation Ball 88.90mm x 0.64m 13.84kg/m L80 Pup Joint	114.30	57.15	0.76
			88.90	76.00	0.64
	7	Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	67.27
Packer set 1374.54m		177.80 mm x 88.9 mm EUE RockSEAL II Hydraulic set open Hole Dual Element Packer c/w Full Shear (Note- High Pressure Trim P-110 c/w 'HSN' Elastomer) Metallurgy: 4140 30-36 Rc (P-110) Elastomer: HSN Threads: 88.9 mm EUE 8 Rd 177.8 mm x 88.9 mm Fluted Swivel Centralizer	146.05	76.00	1.29
			147.62	76.00	0.28
	14	Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	134.59
FracPORT set 1510.38m		88.9 mm EUE Heavy Duty P-110 Drillable FracPORT c/w 50.8 mm (2.0") Ball Seat for 57.15 mm (2.25") Actuation Ball 88.90mm x 0.64m 13.84kg/m L80 Pup Joint	114.30	50.80	0.76
			88.90	76.00	0.64
	7	Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	67.36
Packer set 1579.48m		177.80 mm x 88.9 mm EUE RockSEAL II Hydraulic set open Hole Dual Element Packer c/w Full Shear (Note- High Pressure Trim P-110 c/w 'HSN' Elastomer) Metallurgy: 4140 30-36 Rc (P-110) Elastomer: HSN Threads: 88.9 mm EUE 8 Rd 177.8 mm x 88.9 mm Fluted Swivel Centralizer	146.05	76.00	1.29
			147.62	76.00	0.28
	7	Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	67.33
FracPORT set 1648.06m		88.9 mm EUE Heavy Duty P-110 Drillable FracPORT c/w 44.45 mm (1.75") Ball Seat for 50.8 mm (2.0") Actuation Ball 88.90mm x 0.64m 13.84kg/m L80 Pup Joint	114.30	44.45	0.76
			88.90	76.00	0.64
	7	Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	67.21
Packer set 1717.01m		177.80 mm x 88.9 mm EUE RockSEAL II Hydraulic set open Hole Dual Element Packer c/w Full Shear (Note- High Pressure Trim P-110 c/w 'HSN' Elastomer) Metallurgy: 4140 30-36 Rc (P-110) Elastomer: HSN Threads: 88.9 mm EUE 8 Rd 177.8 mm x 88.9 mm Fluted Swivel Centralizer	146.05	76.00	1.29
			147.62	76.00	0.28
	7	Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	67.3
FracPORT set 1785.56m		88.9 mm EUE Heavy Duty P-110 Drillable FracPORT c/w 38.1 mm (1.5") Ball Seat for 44.45 mm (1.75") Actuation Ball 88.90mm x 0.64m 13.84kg/m L80 Pup Joint	114.30	38.10	0.76
			88.90	76.00	0.64
	7	Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	67.36
Packer set 1854.66m		177.80 mm x 88.9 mm EUE RockSEAL II Hydraulic set open Hole Dual Element Packer c/w Full Shear (Note- High Pressure Trim P-110 c/w 'HSN' Elastomer) Metallurgy: 4140 30-36 Rc (P-110) Elastomer: HSN Threads: 88.9 mm EUE 8 Rd	146.05	76.00	1.29

	177.8 mm x 88.9 mm Fluted Swivel Centralizer	147.62	76.00	0.28
	7 Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	67.22
	88.9 mm EUE Heavy Duty P-110 Drillable FracPORT c/w 31.75 mm (1.25") Ball Seat for 38.10 mm (1.50") Actuation Ball 88.90mm x 0.64m 13.84kg/m L80 Pup Joint	114.30	31.75	0.76
	FracPORT set 1923.13m	88.90	76.00	0.64
	7 Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	67.24
	177.80 mm x 88.9 mm EUE RockSEAL II Hydraulic set open Hole Dual Element Packer c/w Full Shear (Note- High Pressure Trim P-110 c/w 'HSN' Elastomer) Metallurgy: 4140 30-36 Rc (P-110) Elastomer: HSN Threads: 88.9 mm EUE 8 Rd 177.8 mm x 88.9 mm Fluted Swivel Centralizer	146.05	76.00	1.29
	Packer set 1992.11m	147.62	76.00	0.28
	7 Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	67.28
	88.9 mm EUE Heavy Duty P-110 Drillable FracPORT c/w 25.40 mm (1.00") Ball Seat for 31.75 mm (1.25") Actuation Ball 88.90mm x 0.64m 13.84kg/m L80 Pup Joint	114.30	25.40	0.76
	FracPORT set 2060.64m	88.90	76.00	0.64
	8 Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	76.31
	177.80 mm x 88.9 mm EUE RockSEAL II Hydraulic set open Hole Dual Element Packer c/w Full Shear (Note- High Pressure Trim P-110 c/w 'HSN' Elastomer) Metallurgy: 4140 30-36 Rc (P-110) Elastomer: HSN Threads: 88.9 mm EUE 8 Rd 177.8 mm x 88.9 mm Fluted Swivel Centralizer	146.05	76.00	1.29
	Packer set 2138.69m	147.62	76.00	0.28
	12 Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	115.1
	177.8 mm x 88.9 mm Fluted Swivel Centralizer	147.62	76.00	0.28
	88.9 mm EUE Heavy Duty Dual Acting Hydraulic Activated FracPORT Metallurgy: 4140 30-36 Rc (P-110) Elastomer: HSN Threads: 88.9 mm EUE 8 Rd 177.8 mm x 88.9 mm Fluted Swivel Centralizer	114.30	76.00	1.32
	FracPORT set 2255.68	147.62	76.00	0.28
	2 Joints Liner 88.9 mm, 13.84 Kg/m L-80 Tubing as required	88.90	76.00	18.64
	177.80 mm x 88.9 mm EUE RockSEAL II Hydraulic set open Hole Dual Element Packer c/w Full Shear (Note- High Pressure Trim P-110 c/w 'HSN' Elastomer) Metallurgy: 4140 30-36 Rc (P-110) Elastomer: HSN Threads: 88.9 mm EUE 8 Rd	146.05	76.00	1.29
	Packer set 2275.78m	147.62	76.00	0.28
177.8 mm x 88.9 mm Fluted Swivel Centralizer	147.62	76.00	0.28	
88.9mm Toe Circulating Sub c/w 0.75" seat for a 1.00" closing ball	127.00	XXXX	0.51	
88.9mm Float Collar	114.30	XXXX	0.4	
Liner 88.9 mm x 3.08m long, 13.84 Kg/m L-80 Pup joint	88.90	76.00	3.08	
178mm x 88.9mm Bullet Nose re-entry guide	139.70	76.00	0.23	
TD: 2286 m				
Service Center Estevan	Telephone (306) 421-2351	Contact Rene Sehn	Telephone Bryce Fletcher (403) 263-7587	



**FAIRBORNE SINCLAIR PROV. HZNTL
15-14-7-29**

**(UWI:100/15-14-007-29W1/00)
(Surf Location 3-14-7-29W1)**

Well Licence #: 6530

HZ Water Injection Well Conversion

AFE #R0903XX

Prepared by: Lindsay Gray, C.E.T.
Prepared For: Mike Rushton/Pat Kelly
Fairborne Energy
Date: July, 2009

Copies To: Wellfile (Original)
Well Site Supervisor
Chris Edwards

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1.0 CONTACTS

1.1 Engineering and Operations

CONTACT	BUSINESS	BUSINESS FAX	RESIDENCE	CELLULAR
Dave Cymbalisty V.P. Engineering	(403) 290-7726	(403) 290-7751	(403) 254-9434	(403) 651-4537
Gary Poirier V.P. Production	(403) 290-7756	(403) 290-7751	(403) 217-2787	(403) 850-6313
Chris Edwards	(403) 290-7641	(403) 290-7751		
Dwayne DeDecker				(306) 577-5333
Mike Rushton Completions Manager	(403) 290-3224	(403) 290-7724	(403) 547-4377	(403) 968-4424
Pat Kelly Completions Sup.	(403) 206-1628	(403) 290-7724	(780) 875-3430	(780) 808-6130

1.2 Services and Suppliers

Services	Company	Location	Phone
Service Rig			
Injection String			
Wellhead	Stream-Flo	Estevan	
Inhibition Chemicals			
Packers & DH Tools	Packers Plus	Estevan	(306)634-9056

All other services at discretion of wellsite supervisor.

2.0 GENERAL INFORMATION

2.1 Well Information

UWI: 100/15-14-007-29W1/00
Surface Location: 3-14-007-29W1/00
 305.5 m's N of S & 510.6 m's E of W of the SW ¼ 14-007-29W1
Surface Coords: Latitude: 49°33'54.275" Longitude: 101°19'10.222" (LL83)
Bottom hole Location: 15-14-007-29W1
 230.3 m's S of N & 506.2 m's W of E of the NE ¼ 14-007-29W1
 (1194.5 m's North and 637.0 m's East of Well Center)
Well Type: Horizontal
AFE Number: R0903XX
License Number: 6530
KB Elevation: 514.76 m's
Ground Elevation: 510.43 m's
CF Elevation: 510.43 m's
KB – GL: 4.33 m's
KB – CF: 4.33 m's
KB – THF: To be measured and recorded
TD: 2282 mKB MD TVD: 996.0 – 1007.0 mKB
PBTD: 2282.0 mKB MD TVD: 996.0 mKB TVD
Spud : Dec. 14, 2007
Rig Release: Jan. 08, 2008
Directional Survey: KOP @ +/-814 mKB MD to a 90° horizontal @ ± 1159.3 mKB MD. See attached Phoenix directional survey for further details.

Surface Casing: 11 joints of 244.5mm, 48.06 kg/m H-40 ST&C landed at 135.0 mKB

Cementing Details: 16.0 tonnes of 0:1:0 Normal Portland @ 1880 kg/m³ + 3.0% CaCl₂
 Plug bumped, float held. 3.0 m³ of good cement returns to surface.

Intermediate Casing: 92 joints of 177.8 mm casing landed at 1149.0 mKB MD. Casing run as follows:
 25 joints of 177.8mm, 34.23 kg/m J-55 LT&C from 1149.0 to 911.2 mKB MD
 65 joints of 177.8mm, 29.76 kg/m J-55 ST&C from 911.2 mKB MD to 23.8 mKB
 2 joints of 177.8mm, 34.23 kg/m J-55 LT&C casing from 23.8 mKB to surface

Cementing Details: Fill: 12.0 tonnes of SpectraCem @ 1400 kg/m³ + 0.5% FL-5 + 0.3% Celloflake.
 Cementing interval from 775.0 mKB MD to surface
Tail: 14.0 tonnes of 0:1:0 Class "G" @ 1901 kg/m³ + 0.7% NFL-2 + 3.0% CaCl₂. Cementing interval from 1149.0 to 775.0 mKB MD. Plug bumped, float held. 4.0 m³ of good cement returns to surface

Liner: 88.9 mm, 13.84 kg/m, L-80, EUE Tubing c/w 9 Packers Plus RockSEAL hydraulic set packers and 8 Packers Plus Frac ports landed @ 2282.0 mKB MD. Packers Plus-6 mechanical set 177.8 mm, 34.23 kg/m x 88.9 mm liner hanger set at 1119.0 mKB MD. Top of "PL" Slick Joint with 71.45 mm Otis "X" profile at 1117.79 mKB MD (1001.3 mKB TVD) @ 85°
 Liner is not cemented

Frac Port/ RockSEAL Packer Data:

RockSeal Packer #	Setting Depth	FracPort #	Setting Depth
1	2275.68 mKB MD	1	2255.68 mKB MD
2	2138.69 mKB MD	2	2060.64 mKB MD
3	1992.11 mKB MD	3	1923.13 mKB MD
4	1854.66 mKB MD	4	1785.56 mKB MD
5	1717.0 mKB MD	5	1648.06 mKB MD
6	1579.48 mKB MD	6	1510.38 mKB MD
7	1374.54 mKB MD	7	1305.53 mKB MD
8	1265.86 mKB MD	8	1225.70 mKB MD
9	1157.8 mKB MD		

Production Tubing: 72 joints (693.14 m's) of 73 mm, 9.67 kg/m J-55 EUE tubing and
30 joints (286.23 m's) of 73 mm, 9.67 kg/m J-55 polycor lined tubing
See attached well servicing report from May 9, 2008 for further details

Rod String: 71 x 19.1 mm plain rods
48 x 19.1 mm scraped rods
1 – 6.7 m x 31.8 mm polish rod and 31.8 mm x 31.8 mm x 4.3 m rod liner
See attached well servicing report from May 9, 2008 for further details

Kill Fluid: Produced water

Frac Fluid: Clay stabilized fresh water. Be sure to add biocide prior to frac

Casing Bowl: Crown model CC-22 279.4 mm, 21 MPa x 244.5 mm SOW. Casing bowl installed Dec. 12, 2007.

Installed wellhead: Stream-Flo 279.4 mm, 21 MPa flanged x 179.4 mm, 21 Mpa flanged tubing head.
Stream-Flo 179.4 mm, 21 Mpa flanged x 88.9 mm EUE male pin up tubing head adapter.

Reservoir Parameters:

Zone	BHP (MPa)	BHT (°C)	Por. (%)	Sw (%)	Perm. (mD)	H ₂ S (%)	Frac. Grad. (kPa/m)	Est. Prod. (m ³ /d)
Three Forks						0		

Tubular Data:

Size (mm)	Weight (kg/m)	Grade (API)	Conn. (API)	Drift (mm)	Capacity (m ³ /m)	Capacity (m/m ³)	Burst (MPa)	Collapse (MPa)	Yield (daN)
177.8	29.76	J-55	ST&C	160.81	0.021119	47.35	26.0	16.0	104,000
177.8	34.23	J-55	ST&C	158.52	0.019958	50.10	30.0	22.0	139,000
88.9	13.84	L-80	EUE	72.8	0.004534	220.5	70.1	72.6	90,000
73.0	9.67	L-80	EUE	59.61	0.003019	331.2	50.1	53.0	44,000

Annular Volumes

Pipe Sizes	Capacity (m3/m)	Capacity (m/m3)
177.8 mm, 34.23 kg/m / 73 mm	0.016349	61.16
177.8 mm, 29.76 kg/m / 73 mm	0.016934	59.05

API Recommended make-up torque:

	73 mm, J-55, EUE
Minimum	1680 N.m. (1240 ft-lbs)
Optimum	2240 N.m. (1650 ft-lbs)
Maximum	2790 N.m. (2060 ft-lbs)

Standard API modified thread compound is to be used throughout.
A maximum of one (1) full thread burial in the collar is allowed

2.2 Objective

Convert the subject well from a producing Three Forks Oil Well to a Water Disposal Well. MIRU the service rig. Kill the well with produced water. POOH and lay down the 19.1 mm rod string and BHP. Stump test and install BOP's. Unset the anchor. POOH and lay down the 73 mm tubing string and tubing anchor. Make up and RIH with the On/Off connector for the Liner Hanger Slick Joint on Zerocor coated 73 mm tubing. Space out the tubing and circulate the annulus over to inhibited fresh water. Latch onto the liner hanger and pressure test the casing to 7 MPa. Remove the BOP's and assemble the injection (coated) wellhead. Rig out and release the service rig. MIRU C&A unit. Conduct a step rate injectivity test on the Three Forks formation. Release the C&A unit. Turn the well over to production operations.

2.3 Health, Safety and Environment

Safety meetings are to be held with all service company personnel prior to the start of each shift or job. Wellsite supervisor must notify contractors of known hazards of which contractor(s) may be unaware. Wellsite supervisor must ensure that workers are aware of their responsibilities and duties under WPH&S regulations and workers comply with regulations. All service company personnel must also be reminded at each meeting that they may refuse to work, without any fear of retribution, if they think conditions are unsafe or they do not understand what their role is, in the operation.

All service companies supplying materials will review Material Safety Data Sheets (MSDS's) at this meeting for all products supplied and ensure these MSDS's are available for workers' examination on location in compliance with WHMIS regulations. All safety meetings will be recorded on the daily report and on the daily tour sheet.

As per EUB Directive 33, plan and conduct all workover procedures in a manner that will avoid the mixing of air & hydrocarbons in the wellbore and connected surface piping. If mixing does occur, purge prior to pressurizing or exposing mixture to any other possible source of ignition. Prior to conducting any work that involves the mixing of air and hydrocarbons in the wellbore/wellhead, conduct and document a Pre-Job Hazard Assessment meeting with all personnel on location, detailing job scope and purging procedures.

All applicable regulations, including, but not limited to AEUB and Alberta WPH&S regulations as well as the Manitoba Oil & Gas act C.C.S.M.c.034 drilling & production regs. are to be strictly adhered to.

Written instructions must be posted in doghouse or other conspicuous area prior to wellsite supervisor leaving lease. Wellsite supervisor must designate, in writing, a competent person to carry out principal contractor's responsibilities. All verbal notifications and approvals from government regulatory agencies will be recorded on the daily report tour sheet. The name of the individual contacted and the subject matter of approval or notification should be recorded on it.

Please follow the interim email on road cleanup and safety. Ensure that appropriate government departments are notified prior to any major equipment moves onto or off of lease. Road conditions on the public roads should be assessed daily by the supervisor and any required actions should be addressed promptly.

2.4 Miscellaneous

Morning reports must include the Unique Well Identifier (UWI). Ensure that this is recorded somewhere on each report as it will be used to manage the well information in Calgary. Please forward a copy to Pat Kelly pkelly@fairborne-energy.com Mike Rushton mrushton@fairborne-energy.com & Kim Kelly kkelly@fairborne-energy.com

All materials shipped to this location that are not used must be transferred to an appropriate warehouse point. Transfers of any tubular materials must include complete tally. Company wellsite supervisor will complete such transfers and forward both copies to Calgary office for approval and further handling.

The wellsite supervisor must sign delivery and field tickets for all services performed or materials purchased. Record AFE number, sub-code and well location on all purchase and work tickets. Invoices are to be sent to:

**Attention: Pat Kelly/Mike Rushton
Fairborne Energy Ltd.
3400, 450 – First Street SW
Calgary, Alberta T2P 5H1**

In an effort to ensure that the proper location (the bottom hole location) is put on all field tickets, any improperly stamped tickets will not be paid. It will be the responsibility of both the Fairborne supervisor & the service company to ensure this data is correct, prior to invoicing for payment. If the surface location is used we are not able to determine which well it should be charged too since several wells can be drilled off of the same surface location.

NOTE: This program is to be used as a guide only, field conditions and engineering decisions may change thru the course of the job – communication with the Completions Superintendent is imperative to ensure that all procedures are approved prior to commencing.

3.0 RECOMMENDED PROCEDURES

1. Twenty-four hours prior to commencing operations notify:

CONTACT	BUSINESS	CELLULAR
Mike Rushton	403-290-3224	403-968-4424
Pat Kelly	403-206-1628	403-808-6130
Dwayne DeDecker	1-306-577-5333	1-306-577-5333

Notify the Manitoba STEM dept, Petroleum branch 24 hrs. prior to moving the rig on location.
1-204-748-4260 in Virden Manitoba

- A call will be held each morning between Fairborne's Completions Foreman and Completions Staff in the Calgary Office. The purpose of the conference call will be to discuss the previous day's operations, to confirm the plan of operations for the current day and to discuss any HSE issues. This will ensure operational parameters are not exceeded and that current HSE issues are resolved
2. **Handover of Lease to Completion Team Operations:**
Workovers: Obtain a work permit from the Field Operator prior to moving any equipment onto location. If any lease preparation has been carried out ensure a verbal or written changeover is completed with the Construction Foreman to identify any wellsite HSE issues (eg. ERP phone numbers, buried lines, ground cover, etc.).
Upon arrival to the wellsite, conduct a walk-around lease inspection. Note the condition of the lease, record any clean-up operations required to address any spills and record any other noteworthy findings on the first morning report.
 3. **HSE Meeting Guidelines:**
Conduct an HSE and Procedures meetings with all personnel on location prior to conducting each operation. Ensure all operations conducted on the lease follow Fairborne Standard Safety Practices.
Ensure that all personnel are briefed on the wellsite hazards, safety and first aid equipment locations, escape routes and muster points upon their arrival to the lease. All personnel must be signed in after receiving their briefing and all personnel must sign out when departing the work site. Document the HSE and Procedures meetings on the morning report.
 4. Inspect location and prepare for moving in the Service rig:
 - Locate overhead Power Lines and flag
 - Locate and flag buried cables and lines.
 - Plow/clear the lease and access road.
 5. Check the surface casing vent for flow. If flow exists, shut-in the surface casing vent for 24 hour pressure buildup. Conduct surface casing vent flow and gas migration tests. Fill out the attached Surface Casing Vent Flow/Gas Migration Data Forms whether a vent flow exists or not. Send a copy of the form to the Calgary office. Record observations, rates and pressures in the morning report.
 6. Move in and rig up free standing mobile single service rig complete with pump, clean tank, 35 MPa Class II BOP's, pipe racks and handling equipment for 73 mm tubing. Spot equipment and rig up according to Manitoba STEM and WPH&S regulations. Stand and secure derrick. Conduct a complete service rig inspection and repair all deficiencies prior to commencing operations
 7. With the pumpjack weights at the 12° clock position, secure the pumpjack brake sheave with a chain and boomer.

8. Change the handling equipment over in preparation to pull 19.1 mm rods. Bleed off any tubing & casing pressure to the rig tank. Pull up on the polish rod and unseat the BHP. **NOTE: Don't pull the polish rod liner out of the stuffing box.**
9. Kill the tubing/flush the rod string by pumping a minimum of 1 tubing volume down the tubing. Pump produced water down the casing as required to kill the casing side. Strip out the polish rod and install the rod table/BOP.
10. POOH and lay down the 19.1 mm rod string, sinker bars and BHP. Send the BHP back to Keystone, Virden for repairs/stocking.
11. Change the handling equipment and pipe rams over to 73 mm. Stump test each component of the 35 MPa, Class II BOP's to 1,400 kPa low, and 21,000 kPa high for 10 minutes each.
12. Remove the wellhead top section. Install a handling pup c/w TIW valve in the tubing hanger. Pull up and remove the tubing hanger. Install a pup joint, lower the tubing string into the neutral position and unset/release the tubing anchor.
13. Pull up and remove the pup joint used to release the anchor. Re-install and land the tubing via the tubing hanger.
14. Function test the pipe rams. Install 179.4 mm x 35 MPa Class II BOP stack including a work spool with side outlets. Pressure test, against the tubing hanger, the pipe rams and flanged connection to 1,400 KPa low and 21,000 KPa high. Pressure test the TIW valve to 1,400 KPa low and 10,000 KPa high.
15. Rig up the floor in preparation to pull 73 mm tubing. Pull and remove the tubing hanger from the tubing string.
16. POOH and lay down the 73 mm tubing string. Lay out the PSN and tubing anchor. Send this equipment back to Weatherford, Estevan for repairs/restocking.
17. Make up, tally, drift and RIH with the following injection string:
 - 1 – 177.8 mm x 88.9 mm EUE Packers Plus On/Off sealing connector, c/w SR222 coating
 - 1 – 88.9 mm EUE pin x 73 mm EUE box crossover c/w SR222 coating
 - 1 – 3.05 m x 73 mm, 9.67 kg/m, J-55, 8rd EUE ZeroCor coated pup joint
 - 1 -177.8 mm x 73 mm fluted swivel centralizer c/w SR222 coating
 - X – joints of 73 mm, 9.67 kg/m, J-55, 8rd EUE ZeroCor tubing to surface.
18. Tag the liner hanger packer. Space out to land the tubing in the required compression as calculated by the onsite Packers plus rep. **NOTE: All pup joints used for space out are to be buried 1 joint below surface.**
19. Rig up to reverse circulate. Circulate the annulus over to inhibited fresh water containing corrosion inhibitor & biocide. Rig off the circulating equipment.
20. Land the tubing via the extended neck tubing hanger. Using inhibited fresh water, pressure test the packer and casing to 14 MPa.
21. Strip off the BOP's and assemble the injection wellhead. Pressure test the packer, wellhead and casing to 14 MPa. Top off the annulus with methanol or diesel fuel.
22. Empty and clean out the rig tank.
23. Rig out and release the service rig. Ensure the lease is clean and free of garbage/debris.

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24. MIRU Trican's single C&A unit. Conduct and document safety and procedures meeting with all personnel, reviewing program, proposed operations, pumping safety procedures & personnel responsibilities.
 25. Using cold, clean, filtered produced water, conduct a step rate injectivity test on the Three Forks formation by following the recommended procedure:
 - A. Commence injection at a low rate for a preset time period. Record the pressure at the end of this interval. The time period **MUST** be sufficient to allow for rate and pressure stabilization.
 - B. Increase injection rate and continue injection for the same time interval as the first. Record the pressure at the end of this time interval. It is important to maintain a constant time step size (ie 5 to 10 minute intervals).
 - C. Repeat step B for a number of increasing rates until formation fracture occurs or to 110% of the requested wellhead injection pressure. If formation fracture occurs, it is desirable to have two (2) more data points above the fracture pressure. It is also desirable to have numerous points below the fracture pressure to clearly identify the inflection point in the pressure Vs rate plot. There should be a minimum of five steps to clearly identify the absence or presence of an inflection point indicative of formation fracture. **NOTE: Fairborne anticipates an injection rate of 200 m³/day (8 m³/hour) at a wellhead injection pressure of 14 MPa**
 26. Keep in constant communication with the completions superintendent while conducting the step rate injectivity test. Have a tank truck on stand by should more water be required than the volume on site.
 27. Rig out the C&A unit
 28. Arrange for return of rentals and surplus equipment. Advise Calgary Office of all other potentially valuable material left on lease. Material transfer all property being removed from this location.
 29. Immediately forward all reports/field tickets into the Calgary office to the attention of Mike Rushton/Pat Kelly. **Immediately forward the load fluid report c/w load oil / water left to recover and any new oil / water produced to date to the Calgary Office.**
 30. Turn well over to production operations.
 31. End of Program. This program as issued is final, however, if the executor finds cause to question a step in the program, or if any problems are encountered, he should immediately contact the on call completions superintendent.

4.0 LIST OF ATTACHMENTS

- Pre-Work Safety Meeting Checklist / Document
- Trican step rate injectivity test program
- Packers Plus Final Downhole Schematic.
- Packers Plus Injection string schematic
- ZeroCor Tubing specs
- Stream-Flo Injection style Wellhead drawing
- Directional Survey
- Land survey
- Copy of Well license



Safety of workers and the protection of the environment are integral parts of the business operations of Fairborne Energy Ltd.

Anyone concerned about the safety of any operation or the protection of the environment on this location is encouraged at any time to call one of the following Fairborne Energy personnel anonymously and risk free:

David Cymbalisty
Vice President - Engineering
Office: (403) 290-7726
Cell: (403) 651-4537
Home: (403) 254-9434

Mike Rushton
Completions Manager
Office: (403) 290-3224
Cell: (403) 968-4424

Pat Kelly
Completions Superintendent
Office: (403) 206-1628
Cell: (403) 808-6130

Please post in a common area at the wellsite.



Pre-Work Safety Meeting

Company: _____
Well Location: _____
Fairborne Energy Ltd. Supervisor: _____
Date: _____

1. Location:

- Verify directions and signage.
- Establish effective Communications System.
- Establish suitable Muster Station location.
- Establish suitable STARS landing site; Prepare GPS Coordinates; Latitude and Longitude.
- Review and Establish Emergency Plan and Requirements.

2. Safety Orientation:

- Review Roles and Responsibilities.
- Review Company Rules with all Personnel.
- Review Safe Operating Procedures.
- Establish Vehicle Operating Expectations.
- Hazard Identification and Control.
- Emergency Response Plan.
- Accident and Incident Reporting and Investigation.

3. Equipment:

- Establish proper spacing and layout requirements.
- Prepare Inspection and Testing Plan.

4. References:

- EUB Directive 37 – Service Rig Inspection Manual.
- EUB Directive 33 – Well Servicing and Completion operations-Interim Requirement Regarding the Potential for Explosive Mixtures and Ignition in Wells.
- Fairborne Energy Ltd. Contractor Safety Handbook

NAME (Print):

COMPANY:

SIGNATURE:

_____	_____	_____
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