Revised Well Abandonment Program

Strategic Oil and Gas Ltd. C/O Alvarez & Marsal Canada Inc.

STRATEGIC HB ET AL CAMERON F-75
300/F-75 60-10N 117-15W

Elm Inc. Project Number: STRA050

Developed by: Christopher Gagnon EIT
Reviewed by: Malcolm McKean P.Eng

Version 1.0

ROUTINE ABANDONMENT PROGRAM

BACKGROUND:

- Suspended vertical oil well
- Completed and evaluated in the Sulphur Point and suspended after evaluation.
- Suspended with WR Bridge Plug (pressure tested at 14000kPa for 10 mins)
- Well filled with inhibited 3% KCl water

ABSTRACT:

- Move on wireline to run cement bond log
- Move on service rig
- Retrieve WR plug
- Abandon Sulphur Point with cement retainer and cement squeeze
- Perforate and squeeze porosity as required
- Cut and cap the well

CONTACTS:

Elm Inc. Calgary Office		
Malcolm McKean P.Eng, Vice President Liability	[redacted] – Cell	Malcolm@elminc.ca
Christopher Gagnon EIT, Operations Engineer	[redacted] – Cell	Christopher@elminc.ca

Elm Inc. Field Staff		
To be determined	To be determined	To be determined

Client Contact		
Duncan MacRae – Director, A&M	[redacted] - Cell	dmacrae@alvarzeandmarsal.com

Regulator Contact		
OROGO - Office	867-767-9097	orogo@gov.nt.ca
OROGO - 24-hour emergency line	1-867-445-8551	
NWT Spill Line	1-867-920-8130	

WELL INFORMATION:

WELL NAME:	STRATEGIC ET AL CAMERON F-75			
UNIQUE ID:	300/F75 60-10N 117-15W			
SURFACE LOCATION:	60.07472, -117.4864			
LICENSE #:	1971			
STATUS:	Suspended			
TOTAL DEPTH:	1463.0 mKB			
ELEVATIONS:	**GL:**	773.7 m	**KB:**	778.8 m
BGWP:	600.0 mKB			
PLUG BACK:	1454.0 mKB			
H_2S DATA:	Unknown, assume 2%			
SCVF:	None, tested September 15, 2022			
GAS MIGRATION:	None, tested September 15, 2022			
SITP:	0 kPa			
SICP:	0 kPa			
RESERVOIR PRESSURE:	Unknown, but was evaluated by swabbing. Assume 10 MPA as a worst case.			
MAX FLARE VOLUME:	1.5 x wellbore volume at 10 MPa = 2.7 e3m3			

LANDOWNER: Crown

DIRECTIONS: Refer to maps

COMPLETION: Sulphur Point: 1422.5 – 1426.0 mKB (Suspended)
WR Bridge Plug COE at 1421.0 mKB
Casing Failure 61 – 137 mKB.

FORMATIONS:

Formation	MD (m)
Wabamun	548.0
Fort Simpson	662.92
Beaverhill Lake	1291.0
Slave Point	1347.5
F4 Marker	1389
Watt Mountain	1396.5
Sulphur point Limestone	1404.0
Sulphur Point Dolomite	1413.0
Muskeg	1428.0
TOTAL DEPTH	1463.0

TUBULARS:

SURFACE CASING: 219.1 mm, 35.7 kg/m, J-55, ST&C. Casing landed at 436 mKB. Cemented with 34.0 T 0-1-0 Class G Cement + 2% $CaCl_2$

7 m^3 cement Returns

PRODUCTION CASING: 139.7mm, 20.8 kg/m, J-55, ST&C

Casing landed at 1463.0 mKB. Cemented with 23 T Fill-Lite + 0.6% R-3 + 3.0% A-9 followed by 5.0 T 0-1-0 Class G Cement + 0.4% FL-5.

Ran bond log February 4, 2023. Cement top at +/- 335 mKB

PRODUCTION STRING: No tubing in well.

Casing size and weight	Casing ID (mm)	Casing Drift (mm)	Casing Capacity (m3/m)	Top of Plugback	Casing Capacity to Plugback (m3)
219.1mm 35.7 kg/m	205.664	202.48	0.033221	N/A	N/A
139.7mm, 20.8 kg/m	127.305	124.12	0.012729	1454	18.5

DOCUMENTATION & REPORTING:

Daily operation reports are to be emailed prior to 7:00 am the next day following operations. They are to be sent to the ELM Inc office via ElmDownholeOffice@elminc.ca

Daily reports are to include a detailed description of the day's events along with all third party services that were utilized and their respective billing charges. These billing charges are to be added and represented by a daily operational cost. These total daily operational costs are to be reflected in a to-date accumulative cost. Along with the daily report the email must include a brief description of the work that was done that day, as well as a 24 hour forecast for the work to be done the following day.

Any incident or injury is to be reported immediately, after appropriate first- and/or medical-aid has been administered to the Elm Inc. office staff in Calgary. After the situation has been placed under control and all affected parties have been aided or corrected, an incident investigation is to take place and attempt to gather all necessary information via written witness statements and summarized in an incident investigation form. Elm Inc. Calgary office staff will then inform the appropriate client representatives of what has taken place.

After the abandonment has been completed, the well site supervisor is to provide the office staff in Calgary with all third-party purchase orders and field tickets/service reports, material transfers, waste manifests along with all appropriate field safety documents. This needs to be completed immediately following the job.

SAFETY:

A safety meeting is to be held with all service company personnel prior to each 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 OH&S regulations and that worker comply with regulations. All service companies supplying materials will review Safety Data Sheets at this meeting for all products supplied and maintain these Safety Data Sheets available for worker's examination on location in compliance with WHIMIS regulations. All Safety meetings will be recorded on the daily reports.

Whenever possible, plan and conduct all workover procedures in a manner which will avoid the mixing of air & hydrocarbons in the well bore and connected surface piping. If mixing does occur, purge prior to pressurizing or exposing mixture to any other possible source of ignition.

All applicable regulations, including, but not limited to the NWT Office of the Regulator of Oil and Gas Operations (OROGO) and Occupational Health and Safety regulations, are to be strictly

adhered to. Written instructions must be posted in the doghouse or other conspicuous area prior to the wellsite supervisor leaving the 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. The name of the individual contacted, and the subject matter of approval or notification should be recorded on the same.

REGULATORY:

OROGO regulations require that the Well Approval as signed by the regulator must be posted in a clearly visible location on the work site. The well approval, its additional terms, and this well abandonment program must be precisely followed. Any deviations from the program must be approved by OROGO and clearly documented on the morning report. Include the time, name of person approving the changes, and important points of the phone conversation.

ABANDONMENT PROGRAM:

Pre-Operations Notifications:

1. Notify the Area Foreman 48 hours before operations to begin.

Mobilize and Inspections:

2. Mobilize to location and inspect access. Ensure that access is clear to allow two-way traffic in and out of the site.

3. Mobilize and move in a service rig with Class III BOP system, doghouse, pump and tank, mobile boiler, pressure tank with flare, and air safety trailer.

4. Hold and record a safety and procedure meeting with all personnel on location. Perform a walk around inspection to ensure no hazards on the site. Document meeting topics and prepare a site-specific ERP.

5. Disassemble the SCVF piping and ensure that it is not blocked. Re assemble the piping and install a bottle and hose type tester. Watch tester and ensure there are no bubbles in 10 minutes. Document test on daily report and on the "Surface Casing Vent Flow" form. If using a non-freezing liquid (example windshield washer fluid) for the test, document the liquid used and the density. Ensure that the vent stays open and clear of obstructions throughout all operations and note any subsequent flows on the daily report.

Remedial Cementing Balanced Plug

6. Run in hole with tubing open ended and the tubing hanger. Land the tubing hanger with the bottom of the tubing at 180 mKB (43 m below the casing failure).

7. Move on remedial cementing crew and vacuum truck.

8. Hold and record a safety and procedure meeting with all personnel on location. Perform a walk around inspection to ensure no hazards on the site. Document meeting topics and modify site specific ERP if necessary.

9. Shut in the surface casing vent to keep the cement from “U-Tubing”.

10. Mix 2.25 m3 of cement and balance in the well. This will make 176.7 lineal meters of cement and put the top of cement at 8 mKB (below the BOP stack).

11. Pull out of hole with the tubing.

12. Run in hole with a short pup joint and tubing hanger. Land the tubing hanger. Rig on cementers and begin pumping. Open the surface casing vent.

13. Circulate cement to surface.

14. With 0.5 m3 returned to surface, switch over to pumping water.

15. Pump 0.5 m3 of water to clear the surface lines.

16. Shut the vent. Apply 1000 kPa to the casing to keep cement in place overnight.

17. Clean up the cementing truck and release.

18. After cement has set up (overnight at minimum) run in with tubing and probe cement plug. Apply 1800 decanewtons to confirm top of plug.

19. Pressure test plug and casing to 7 MPA for 10 minutes.

20. Pull tubing and lay down, stopping with 5 joints left for a final circulation to fresh water. Pull out last 5 joints but do not top up to prevent wellhead from freezing solid.

Rig Out

21. Remove BOP stack and re install wellhead.

22. Rig out the service rig. Clean the rig tank and send the fluid to the next well for re use, or to the slop tank at the battery to be taken to disposal.

23. Ensure all garbage and debris has been removed from location.

24. Proceed to “Wellhead cut and cap” section.

Wellhead Cut and Cap

25. Move in waterjet cut and cap crew and equipment.

26. Hold and record a safety and procedure meeting with all personnel on location. Perform a walk around inspection to ensure no hazards on the site. Document meeting topics and prepare a site-specific ERP.

27. Install a bottle and hose type tester on the vent assembly. Watch tester and ensure there are no bubbles in 10 minutes. Document test on daily report and on the “Surface Casing Vent Flow” form. If using a non-freezing liquid (example windshield washer fluid) for the test, document the liquid used and the density.

28. Rig in the waterjet cut and cap crew. Cut and cap the well 1.5 meters below ground level following the waterjet company procedures. Take pictures of the well before the cut, with the wellhead removed, the cut surface, and the vented cap before and during instillation.

29. Backfill open excavation. Photograph the backfill.

30. Install abandoned well sign 1 meter north of the well. Sign is to meet the requirements as outlined in the attachment.

31. Release all services. Field operations are complete.

Final Reporting

32. Prepare a final downhole diagram showing the final well configuration

33. Ensure that all tickets and costs are recorded on the morning reports. If a vendor has not submitted their tickets, then put in an estimated cost.

34. Tickets are to be coded with the well name, AFE number, date, and field supervisor's signature. Ensure vendors electronically send all invoices to

ELM Inc
#1000, 205 – 5th Ave SW
Calgary AB T2P 2V7
AP@Elminc.ca

Elm Inc. Terms of Service:

1. The price estimate for this well is presented as a most probable cost based on similar repair operations and is to be used for AFE purposes only. This estimate is only as good as the information provided to Elm. Elm will co-ordinate and supervise the entire operation, pay all third party services and submit a final invoice based on actual costs incurred for equipment and services. Depending on the complexity of the abandonment, location and age of the well, Elm recommends adding 10-25% contingency to the estimates attached.

2. This estimate does not contain any lease clean up costs other than back filling around the wellhead after it has been cut off. If requested Elm's Reclamation Division will perform a site assessment that will be used to determine a cost estimate for surface reclamation. A preferential price to do the site assessment will be given if done in conjunction with the downhole abandonment.

3. Elm does not accept any liability for the well, lease, facility and or property it is working on. Elm acts as an independent consultant, providing mainly consulting and supervision services, with some specialized equipment included.

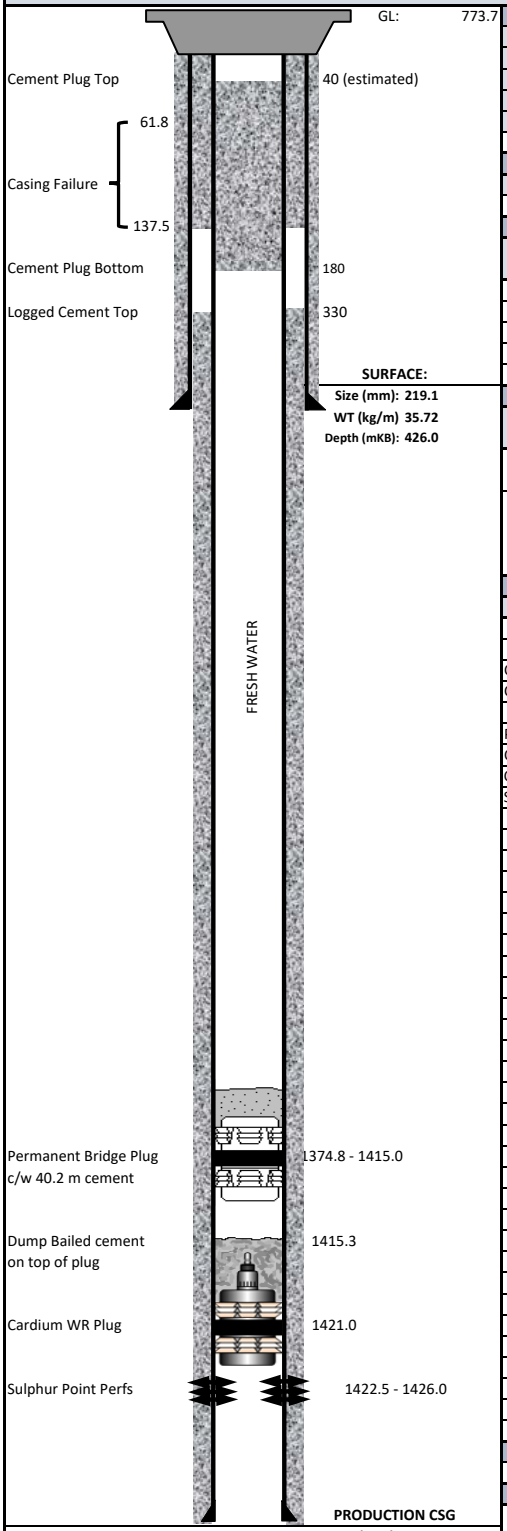
4. Elm will accept liability for the proper placement of bridge plugs and / or cement plugs that we set, however we do not accept liability for any unforeseen or unmentioned down hole problems. This would include failure of the casing to pressure test, collapsed casing, stuck pipe, tubing or rods, scale and or wax build up, surface casing vent flows, gas migration etc.

5. Elm does accept the responsibility of Prime Contractor for sites that have an agreement assigning the Prime Contractor Status.

6. The cost estimate included services and third party costs as listed, if other services are required they will be billed as per our cost schedule. The client will be informed of any costs to be incurred outside of this summary prior to the work being done. These services usually include: disposal costs, stuck and towing or cat work for access, rental and / or trucking of work strings, trucking of tubing, rods, and / or well heads, sour service, required safety equipment and extra charges associated working in hot or cold temperatures.

Elm's objective is to offer the safest and most efficient abandonment while saving the operator both time and money. We feel that by working with you on this project, we can achieve our goals and maintain the high level of professionalism that is reflected in the end product.

PROPOSED WELL DIAGRAM



PBTD = -
TD = 1463.00
TVD = 1463.00

GENERAL DETAILS

REV # 1.0

WELL NAME:	Strategic et al Cameron F-75	FIELD:	Cameron Hills		
UWI:	300/F-75 60-10N 117-15W	LICENSE:	1971		
SURFACE:		LATITUDE:	60.07472	LONGITUDE:	-117.4864
COMPANY:	Strategic Oil And Gas Ltd	DRAWN BY:	C. Gagnon	DATE:	09 Dec 2022

DEVIATION:	WELL STATUS:
Vertical	Abandoned

ELEVATIONS & DEPTHS

KB (mKB)	GL (m)	KB-SCF (m)	KB-GR (m)	BGWP (mKB)	PBTD (mKB)	TD (mKB)	TVD (mKB)
778.8	773.7		5.10	600.00		1463	1463

CASING STRINGS

STRING	SIZE (mm)	WEIGHT (kg/m)	GRADE	CPLG	DRIFT I.D. (mm)	SHOE DEPTH (mKB)
Surface:	219.1	35.72	J-55			426
Intermediate:						
Production:	139.7	20.8	J-55			1463
Liner:						
Open Hole:						

CEMENTING

STRING	DETAIL	Returns (m^3)	Log Cmt Top (mKB)	Calc'd Top (mKB)
Surface:	34 T 0-1-0 Class G + 2% $CaCl_2$	7 m^3		
Intermediate:	23 T Fill-Lite + 0.6% R-3 + 3.0% A-9 5.0 T 0-1-0 Class G + 0.4% FL-5	No Returns	330 Logged Feb 4, 2023	

COMPLETION DATA

ITEM	DEPTH (mKB)	STATUS
Cement Plug, with returns through vent	40 - 180	top is estimated
Casing Failure	61.8 - 137.5	Squeezed
Permanent Bridge Plug capped with 40.2 m cement	1374.8 - 1415.0	
Cement	1415.3 - 1421	
Cardium Retrievable Bridge Plug	1421	
Sulphur Point Perforations	1422.5 - 1426.0	Abandoned (Squeezed)

LANDOWNER	LANDOWNER #	OCCUPANT	OCCUPANT #

DIRECTIONS:

Sign Off

REMARKS:

Diagram does not include potential perforations and cement squeezes to isolate porosity / repair uphole gas migration sources. Further perforations and squeezes to be determined based on logs that will be ran during abandonment operations.