

Office of the Regulator of Oil and Gas Operations PO Box 1320 Yellowknife NT, X1A 2L9

By Email: orogo@gov.nt.ca

#### RE: Information Request No. 2: ACW-2023-SOG-B-08-WID1732

ELM Inc, acting on behalf of Alverez & Marsal Canada Inc in their capacity as the receiver for Strategic Oil and Gas Ltd is responding to the above noted information request sent on February 9, 2023.

2.2 Use of dump bailing

OROGO has identified that the conditions in this wellbore are substantially different from the I-74 wellbore, and that an exemption for dump bailing cement is not justified.

ELM has modified the program to use a circulated cement plug. Should actual wellbore conditions warrant it, an application for an exemption will be made based on specific wellbore conditions encountered.

Should you have any questions or require further information, please contact the undersigned at <a href="mailto:christopher@elminc.ca">christopher@elminc.ca</a>

Sincerely,

Christopher Gagnon, EIT

ELM Inc, acting as a consultant to Alverez & Marsal Canada Inc



# Routine Well Abandonment Program

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

> STRATEGIC ET AL CAMERON B-08 300/B-08 60-10N 117-30W

Elm Inc. Project Number: STRA050

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

Version 3.0

# **ROUTINE ABANDONMENT PROGRAM**

# **BACKGROUND:**

- Suspended Vertical well
- Well was suspended with a tubing bridge plug placed at 1379 mKB.
- Well has a Broken Bumper Spring at +/- 1380.3 mKB
- Well produced from the Sulphur Point formation
- Three zones have to be abandoned: Keg River, Sulphur Point and Slave Point.
- Tubing filled with inhibited water and 50/50 methanol/inhibited water
- Tubing also has a FSG Plug in place at around +/- 1503 mKB.

# **ABSTRACT:**

- Move on service rig
- Move on slickline and notch tubing at 1378mKB above tubing bridge plug
- Unset upper packer and pull assembly
- Latch on lower packer with tubing, pull plug at 1503mKB with slickline
- Unset lower packer and pull assembly
- Abandon Keg River with bridge plug and cement
- Abandon Sulphur Point with bridge plug and cement
- Abandon Slave Point with bridge plug and cement
- Move on wireline to run cement bond log
- If bond log shows acceptable cement isolation, coil tubing unit to circulate well to fresh water
- If bond log shows insufficient cement isolation, use service rig to circulate well to fresh water and conduct isolation squeezes
- Cut and cap the well

# CONTACTS:

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

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

Client Contact			
Duncan MacRae – Director, A&M	- 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 B-08		
<u>UNIQUE ID:</u>	300/B-08 60-10N 117-30W		
SURFACE LOCATION:	Lat: 60° 7' 6" Long: 117° 30' 46"		
LICENSE #:	01732		
<u>STATUS:</u>	Suspended		
TOTAL DEPTH:	1560 mKB (TVD 1560 mKB)		
ELEVATIONS: GL:	786.2 m <b>KB:</b> 789.9 m		
BGWP:	600.0 mKB		
PLUG BACK:	1579.9 mKB (Tagged with tubing)		
H <sub>2</sub> S DATA:	No H2S data on file. Assume 2%.		
<u>SCVF:</u>	None, last tested September 27, 2018		
GAS MIGRATION: <u>SITP:</u>	None, last tested September 27, 2018 14 kPa – Inspected Feb 27, 2019		
<u>SICP:</u>	153 kPa – Inspected Feb 27, 2019		
RESERVOIR PRESSURE:	Slave Point: Not Available		
	Sulphur Point: 9480.7 kPa		
	Keg River: 10236.4 kPa		
MAX FLARE VOLUME:	1.5 x wellbore volume at 10 MPa = $2.98 \text{ e}3\text{m}3$		
Significant flare volumes are not expected during this operation			
LANDOWNER: Crown			

DIRECTIONS: Refer to maps

## **COMPLETION:**

Keg River: 1512 to 1521.5 mKB (suspended)

Sulphur Point: 1412.0 to 1421.0 mKB (suspended) Sulphur Point: 1408.0 to 1409.0 mKB (suspended) Sulphur Point: 1403.0 to 1406.0 mKB (suspended)

Slave Point: 1358.0 to 1360.5 mKB (cement squeezed) Slave Point: 1357.0 to 1353.3 mKB (cement squeezed) Slave Point: 1353.5 to 1355.5 mKB (cement squeezed)

### **FORMATIONS:**

Formation	MD (m)
Wabamun	557.0
Twin Falls	853.0
Hay River	998.0
Beaverhill Lake	1295.0
Muskwa	1325.0
Slave Point	1347.0
Fort Vermilion	1379.0
Watt Mountain	1396.0
Bistcho	1401.0
Sulphur Point	1413.0
Muskeg	1424.0
Keg River	1510.0
Pre-Devonian	1530.0
TOTAL DEPTH	1559.6

# **TUBULARS:**

244.5mm, 53.57 kg/m, J-55, ST&C. Casing landed at 391.7 mKB. Cemented with 31.0 tonnes 0:1:0 Class 'G' + 3.0% CaCl2. 5.5 m3 cement returns to surface
139.7mm, 20.83 kg/m, J-55, ST&C. Casing landed at 1560.0 mKB. Stage tool at 1347.1 mKB. Stage 1 cemented with 6.5 tonnes 0:1:0 Class 'G' + $0.75\%$ T-10 + $0.2\%$ R-5. Stage 2 cemented with 39.5 tonnes 0:1:8 + $0.75\%$ T-10. No mention of returns to surface. Stage collar at 1347.05 mKB. ECP at 1346.54 mKB

- 1380.3 mKB

February 7, 2023

Cement Bond Log on file dated February 27, 1989, shows only zones of interest. A new log will need to be run, to show cement top.

# PRODUCTION STRING:

- 73mm Tubing to Surface
- Permanent 73.0mm Bridge Plug (inside tubing) 1379.0 mKB
- 58.7mm 'F' Nipple (Bumper Spring Set)
  - Packing sub and check valve left in hole (Feb 07, 2019)
  - Placed Space bar on Broken Bumper Spring
  - Space bar consists of 58.42mm Gauge Ring, 0.89m x 31.75mm OD Sinker bar c/w 38.1 mm OD Rope socket c/w 1.375in OD fish neck. Overall length: 1.30m.
- 1 Joint 73mm Tubing and 1 Pup Joint
- Cardium 'NFT' On-Off w/ 58.7mm 'F' Profile
- Cardium 'QDG' Packer 1393.8 mKB
- Cardium 'CFU' Sliding Sleeve (OPEN) w/ 58.7mm 'F' Profile 1398.3 mKB
- Pup Joints
- Blast Joints
- 8 Joints 73mm Tubing & 1 Pup Joint
- Cardium 'NFT' On-Off w/ 57.2mm 'F' Profile w/ 'FSG' Plug in Place
- Cardium 'QDG' Packer 1503.2 mKB
- Pup Joint
- 'R' Nipple with 57.2mm Profile & 55.8mm No-Go
- Wireline Re-Entry Guide 1508.0 mKB

Cement Retainer at 1537 mKB Casing set at 1559.95 mKB

MURIH with 73mm PBP and set at 1379 mKB, 1.3m above Broken Bumper Spring. Pressure test tubing 7mPa for 10 mins. Test Pass. 7157 kPa to 7130 kPa, 27 kPa leak off. (0.4%)

See Attached Downhole Diagram dated February 23, 2005, for more information. – Final Well Operations Reports

# See Daily Workover Report Feb 27, 2019, for more details. – Final Well Operations Reports

Casing size and weight	Casing ID (mm)	Casing Drift (mm)	Casing Capacity (m3/m)	Top of Plugback (mKB)	Casing Capacity to Plugback (m3)
244.5 mm 53.57 kg/m	226.59	222.63	0.040326	N/A	N/A
139.7mm 20.83 kg/m	127.30	124.13	0.012729	1560.0	19.86

# **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.

#### **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 twoway traffic in and out of the site.

- 3. Mobilize and move in a Class III service rig with pump and tank, doghouse, equipment truck, mobile boiler, and pressure tank with flare.
- 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.

## **Rig up service rig**

- 6. Rig up service rig.
- 7. Transfer water to rig tank and mix with H<sub>2</sub>S scavenger as per manufacturers specifications.
  - NOTE: Formations are under pressured and can be controlled with fresh water.
  - NOTE: Ensure there is at least 1.5 times hole volume of kill fluid on location. Well volume is 34.23 m<sup>3</sup>, and there is 26m<sup>3</sup> in the annulus between tubing and casing.
- 8. Lay circulating lines with connection to the pressure tank. Pressure test lines and manifold to 1.4 Mpa and 21 Mpa, 10 minutes for each test.
- 9. Bleed off tubing pressure to the pressure tank.
- 10. Fill tubing with water and pressure test the tubing to 7 Mpa for 10 minutes
- 11. Bleed off casing pressure to the pressure tank.
- 12. Pressure test casing to 7 Mpa for 10 minutes.
- 13. Stump test the BOP stack. Test ram preventors to 1.4 Mpa and 21 Mpa, 10 minutes for each test. Test the annular preventor to 1.4 Mpa and 7 Mpa, 10 minutes for each test.
- 14. Function test the accumulator system.
- 15. Disassemble the wellhead top section. Install a tubing pup and the stabbing valve into the tubing hanger.

- 16. Install a full opening master valve on the wellhead. Strip on BOP stack on top.
- 17. Close pipe rams and pressure test all connections to 1.4 Mpa and 21 Mpa, 10 minutes for each test.

#### Notch tubing

- 18. Mobilize and rig up slickline unit.
- 19. 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.
- 20. Run in and notch tubing at 1378.5mKB above bridge plug.
- 21. Rig out the slickline unit
- 22. Pump down tubing as required to kill well.
- 23. Unset the upper packer with right hand torque. Allow 15 minutes for the packer elements to relax.
- 24. Pull out of hole with tubing and packer. Take care to not swab out kill fluid and top up well to make up for pipe displacement. Lay out recovered packer. Circulate as required to clear debris or re kill well.
  - NOTE: The on off tool connecting to the lower packer is a "no jay" system. Should be able to pick up and come off the lower packer.
- 25. Run in hole with an extended neck overshot (with "jay shoe") on 73 mm tubing. Latch onto packer at 1503.2 mKB.
- 26. Mobilize and rig up slickline unit.
- 27. 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.
- 28. Run in with retrieval tool and retrieve the FSG plug from the profile at 1503 mKB.
  - NOTE: If the FSG plug will not come out, then notch the tubing above the plug.
- 29. Rig out the slickline unit.

- 30. Pump down tubing as required to kill well
- 31. Unset packer with right hand torque. Allow 15 minutes for the packer elements to relax.
- 32. Pull out of hole with tubing and packer. Take care to not swab out kill fluid and top up well to make up for pipe displacement. Lay out recovered packer. Circulate as required to clear debris or re kill well.

#### **Abandon Keg River**

- 34. Run in hole with a casing scraper and scrape down to 1510 mKB. Pull out with scraper.
- 35. Pick up 10K 139.7mm permanent bridge plug on "Baker Style" setting tool and packer on 73.0mm tubing.
- 36. Set plug at +/- 1501 mKB. Use setting procedure provided by the tool company.
  - NOTE: A permanent bridge plug must not be set within 5 meters of a casing collar. Collars are located at 1506 and 1494.5mKB
- 37. Set the packer. Pressure test the bridge plug to 7000 kPa for 15 minutes.
- 38. Unset the packer. Pull and stand the 73mm tubing.
- 39. Run in hole with tubing open ended.
- 40. Mix 250L of class G cement in barrel. Circulate cement on top of bridge plug.
- 41. Slowly pull tubing out of the cement plug. Pull tubing out of well and stand in derrick.

#### **Abandon Sulphur Point**

- 42. Pick up 10K 139.7mm permanent bridge plug on HM setting tool. Run in hole with plug.
- 43. Set plug at +/- 1395 mKB. Use setting procedure provided by the tool company.
  - NOTE: A bridge plug must not be set within 5 meters of a casing collar. Collars are located at 1389.5 and 1402.5 mKB.
- 44. Fill annulus with fresh water. Close pipe rams and pressure test the bridge plug to 7000 kPa for 15 minutes.

- NOTE: If the pressure test is unsuccessful, the most likely cause is the previously cemented Slave Point perforations, or the stage tool is leaking. Disconnect from the bridge plug and pull out of hole with the tubing. Run in with a packer, pressure test the bridge plug, pull above the Slave Point perforations, and pressure test the perforations to confirm. Pull out of hole with packer, run-in tubing open ended and resume program.
- 45. Rotate off the bridge plug as per tool company procedure.
- 46. Mix 250L of class G cement in barrel. Circulate cement down tubing using attached procedure. Pull out of hole with tubing.

# **Abandon Slave Point**

- 47. Pick up 10K 139.7mm HM type permanent bridge plug and packer assembly on 73.0mm tubing.
- 48. Set plug at +/- 1342 mKB. Use setting procedure provided by the tool company.
  - NOTE: A bridge plug must not be set within 5 meters of a casing collar. Collars are located at 1347.5 and 1334.5 mKB.
- 49. Fill annulus with fresh water. Pressure test the bridge plug to 7000 kPa for 15 minutes.
- 50. Disconnect from the bridge plug.
- 51. Mix 250L of class G cement in barrel. Circulate cement down tubing using attached procedure.
- 52. Pull out of hole with tubing. Stand enough tubing for next operations, lay down remaining tubing. Proceed to "Run radial cement bond log" section.

# **Run Radial Bond Log**

- 53. Rig up the wireline unit.
- 54. Run in radial bond tools and record a high-speed log on trip in to PBTD. Run a full radial bond log from PBTD to surface. Send completed logs to wireline company for analysis, and to OROGO and Calgary office.
- 55. Rig out the wireline unit.

56. Calgary office will review the cement bond log and determine if operations are to proceed to the "Wellhead Cut and Cap" section or to "Remedial Perforation" section. WAIT ON ORDERS.

February 7, 2023

# **Remedial Perforation**

- 57. Move on wireline unit.
- 58. 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.
- 59. Run in hole with a 1 meter, 86mm ERHSC perforating gun loaded with 25 gram charges at 17 shots per meter and 60 degree phasing. Correlate gun based on previous bond log. Perforating depth to be determined by Calgary office. Pull out spent guns and inspect to ensure all shots have fired.
- 60. Close blind rams. Pump down the casing and evaluate feed rate into the perforations. Attempt to establish circulation to surface. Contact Calgary office to confirm cementing plan. Options will be "Option 1 Cement Retainer" or "Option 2 Balanced Plug".
  - NOTE: If a feed rate is not established Calgary will have to confirm further operational plans with OROGO, with potential for further up hole isolations.
- 61. Rig out the wireline unit.

#### **Remedial Cementing Option 1 – Cement Retainer**

- 62. Pick up a cement retainer for 139.7mm casing and setting tool.
- 63. Run in hole with retainer on 73 mm tubing and set as per Calgary's direction.
  - NOTE: Check Calgary's order against the collar log from the bond log. A cement retainer must not be placed within 5 meters of a casing collar. If required, contact Calgary to adjust retainer depth.
- 64. Sting out of cement retainer and pressure test down casing to 7 Mpa for 10 minutes.
- 65. Sting into retainer and confirm feed rates and pressures for cementing company to prepare a treatment program.
- 66. Pull into neutral and pressure test tubing to 5 Mpa above the pressure established during the feed rate in step 41. Do not exceed 21 Mpa.

- 67. Move on remedial cementing crew and vacuum truck.
- 68. 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.
- 69. Mix cement as per cementing program.
- 70. Pump cement down tubing and through retainer. Squeeze cement into formation / circulate to surface as per cementing program.
  - NOTE: if circulating cement to surface, do not shut-in surface casing vent until minimum 0.5 m<sup>3</sup> of cement has returned to surface.
- 71. Squeeze cement to final pressure as per cementing program. If cement was circulated to surface, shut in the vent for the squeeze.
- 72. Sting out of retainer and balance remaining cement on the retainer.
- 73. Slowly pull out 2 joints of tubing and tie in circulating equipment. Reverse circulate excess cement out of well, leaving at least 15 lineal meters of cement on top of the retainer. Circulate minimum 2 tubing volumes of fresh water and continue circulating with fresh water until returns are clean. Direct returns to vacuum truck and mix with sugar in truck to prevent cement from setting up.
- 74. 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.
- 75. If necessary, Calgary will provide another perforating interval. If so, return to the "Remedial Perforating" section. Otherwise, proceed to "Wellhead Cut and Cap" section.

#### **Remedial Cementing Option 2 – Balanced Plug**

- 76. Run in hole with tubing open ended and land 16 meters below the perforations.
- 77. Move on remedial cementing crew and vacuum truck.
- 78. 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.
- 79. Mix cement as per cementing program.

- NOTE: Minimum cement plug volume is 1 m<sup>3</sup>
- 80. Pump cement down tubing and balance in well as per cementing program.
- 81. Slowly pull tubing above estimated cement top and reverse circulate 2 tubing volumes of fresh water to clean up tubing.
- 82. Squeeze cement into formation as per cementing program. Final squeeze pressure must exceed 7 Mpa.
- 83. Once cement has flat lined, close in well with pressure and rig off cementers. Clean up equipment into vacuum truck and mix sugar in truck to prevent cement from setting up.
- 84. After cement has set up (overnight at minimum) run in with tubing and probe cement plug. Apply 1800 decanewtons to confirm top of plug.
- 85. Pressure test plug and casing to 7 MPA for 10 minutes.
- 86. 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.
- 87. If necessary, Calgary will provide another perforating interval. If so, return to the "Remedial Perforating" section. Otherwise, proceed to "Wellhead Cut and Cap" section

# Wellhead Cut and Cap

- 88. Move in waterjet cut and cap crew and equipment.
- 89. 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.
- 90. 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.
- 91. 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.
- 92. Backfill open excavation. Photograph the backfill.

- 93. Install abandoned well sign 1 meter north of the well. Sign is to meet the requirements as outlined in the attachment.
- 94. Release all services. Field operations are complete.

## **Final Reporting**

- 95. Prepare a final downhole diagram showing the final well configuration
- 96. 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.
- 97. Tickets are to be coded with the well name, AFE number, date, and field supervisor's signature. Ensure vendors send all invoices electronically to

ELM Inc. #1000, 205 – 5<sup>th</sup> Avenue 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.