FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

| 1, Mai | nufactured and c | ertified by | , <u>F</u> | RNG Pr | ra-Tech | ine. | . 80 | 0 rue | Ca | abana She | rbro | ake_ | QC J1 | IK 3C3 | | | | |
|----------------------------------------|----------------------------------|--------------------------------------------------|-----------------------------------------------|--------------------------------|-----------------------------------------|--------------------------------------------------|---------------------------------|---------------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------|----------------------------------|-------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------|
| 0 14- | | Sable | nff. | chore | Foeray | Pro | ient | 1100 | | Name and addre | | | | AVE S | W C | alaarv | ΔR | |
| 2. Mai | nutactured for | Sanie | 0118 | SHOLE | Literda | 110, | Jeec | | | ne and address o | | | 71-001 | AVC J. | W. C | | P 3 | W3 |
| L. 200 | ation of installati | on | Sable | Offs | shore E | nergy | / Pr | | | Sable Isl | | | | | <u> </u> | | | |
| 4. Тур | e: <u>hori</u> | zonta | <u> 11 1</u> . <u>.</u> | tank | (\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | | | | | (Name and addr 98-10 | | 24-8 | 9800 | 047-2R4 | <u></u> | | 1 | 99 <u>9</u> |
| | | | | | | | eat exf | n., etc.) | (M | ffg!s serial No.) | (| CRN) | (0 | Drawing No.) | (Na | tl. Bd. No.) | (Ye | ar built) |
| 5. ASI | ME Code, Sectio | | (.1) <u> </u> | | Edition an | | ıda /da | te) | | Coc | le Case | No | <u>:</u> | Spe | cial Ser | vice per LIG- | 120(4) | - ·\ . |
| | | ompleted ourse(s): | for, single | wall vess | els, jackets o | of jacket | ed ves | sels, shell | of he | eat exchangers, on the state of | or cham | ber of | multi-char | nber vessels. | | | | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |
| | Course | | <u>,) </u> | | aterial | Thick | kness | | Lor | ng Joint (Cat. A) | | 7 (| Circum, Jo | oint (Cat. A, B | & C) | Heat | Treatm | nent |
| No. | Diameter, in. | Length (| ft & in.) | Spec./Grade or Type | | | | 1 | Ft | ull, Spot, None | Eff. | Тур | e Full | Spot, None | Eff. | Temp. | | |
| 11 | ` ' ' ' ' ' ' ' ' | 10' | | SA-516-70 | | 1.125 | 1 | | | full | 1 | 1 | | full_ | 1. | | _ | |
| | 144" ID | <u>9'-8''</u> | | SA-516 | 5/U | 1.125 | '•U62 | 2 ' 1 | - | full | 1 | 1 | | <u>full</u> | 1 | | | |
| 7. Hea | ids: (a) | SA~516 | -70 no | ormaliz | red , | | | <u>:1</u> | ــــــــــــــــــــــــــــــــــــــ | · (b) | • | | | | i | | 1 | |
| | T | (Matt | Spec. No | o., Grade o | or Type) H.T. | - Time | & Temp | D | _ | `` | (| Mari S | pec. No., | Grade or Type | e) H.T | Time & Tem | | |
| | Location (Top, | | kness | Radius | | Elliptical, | | Conical | | Hemispherical | | Flat | | Side to Pressure | | ,- | Category A | |
| (a) | Bottom, Ends) | + | Corr. | | Knuckle | Ratio | | Apex An | | Radius | Dian | neter | Convex | Concave | | Full, Spot, I | _ | Eff. |
| (b) | ends | 11.107 | •U02 | | | <u> </u> | - | | -:\ | | 1 | | | concave | | · fu] | .1 | |
| 9. MÁ 10. Imp 11. Hyo items 1. 12. Tub | (internal act test | NO, sompleted Stationary | for tube s (Mat'l Sp | per UC 37 ections. ec. No.) Di | 75 psi Dia., | in. (sub | ndicate Proof t ject to j | nal) (a) (1 e yes or no test press.) | (e) and hk., i | external) (b) I the component(Nom. thk., i | n. | orr. All | gn metal t | emp. Allow., in. | -17 | Id, bar, etc.) If bolted, decorate of the control o | 250 | psi. |
| 14. She | | | | | - Jacketed | | | | | exchangers. ngth (ft & in.): | | | | | | | | |
| | Course | | | | aterial | | ness | | | ng Joint (Cat. A) | | | | oint (Cat. A, B | | Heat | Treatm | |
| No. | Diameter, in. | Length (| ft & in.) | Spec./Gr | ade or Type | Nom. | Corr. | Туре | Fι | ull, Spot, None | Eff. | Тур | e Full, | Spot, None | Eff. | Temp. | | Time |
| | | | | | | | | | - | | | . | | | | | | |
| | | | | | | | | + | \vdash | | | - | | | | | ļ | |
| 15. Hea | ids: (a) | | | · | | · | | | <u>-</u> | (b) | | | | | 1.,,- | | ············ | |
| | Files - | , | | | or Type) H.T. | | | | | T | | | | No., Grade or Type) H.T Time & Temp | | | | |
| | Location (Top, Bottom, Ends) | Min. | cness Corr. | | dius Knuckle | Elliptical Ratio | | Conical | | Hemispherical | Flat Diameter | | Side to Pressure Convex Concave | | Cate Type Full, Spot, N | | gory A | |
| (a) | Dottom, Ends) | IVIII I. | OO11. | Olowii | MINORIE | nauc | - | Apex Ang | in A | Radius | Dian | | Convex | Concave | туре | run, spot, r | -0110 | Eff. |
| F. 7 | | | | | | | | | | | | | | | | | | |
| If remov | able, bolts used | (describe | other fas | stening) | | | | | | (Mar | l Spec. | No., G | rade, Size | , No.) | | | | JP 26 |

| 6. MAWP | | . | | psiat n | nax. temp | · | | _ ° F | Min. design metal ten | np | _ °Fat | |
|---------------|-----------------|---------------|------------------|----------------|-----------------|---------------------------------------|-----------------|---------------------------------------|---------------------------|---------------------------------------|----------------|-------------------|
| 7. Impact tes | (internal) t | | (external) | , | | (internal) | (external) | | 2.1 | · · · · · · · · · · · · · · · · · · · | | |
| 8. Hydro., pn | eu or com | ıb. test i | oress. | | | licate yes or roof test | no and the con | nponent(s) im | npact tested) | | | |
| | | | ety valve openin | gs: | | | | | | | | |
| Purpose | (inlet | | Diameter | Flange | Mat | terial | Nozzle T | hickness | Reinforcement | How At | tached | Locatio. |
| Outlet, Dra | • | No. | or Size | Type | Nozzle | Flange | Nom. | Corr. | Material | Nozzle | Flange | (Insp. Oper |
| | in, etc.) | | | | | riange | 4.00" | .062" | SA-516-70 | UW16.1(H | | shell |
| nanway | | 1 | 24" ID | W.Neck | SA-105 | | | | | | | 31611 |
| <u>rent</u> | | 1 | 6" ID | W.Neck | SA-105 | | 2.50" | .062" | integral | UW16.1(C | | |
| ev.ind/p | ores.ver | t3 | 2" ID | W.Neck | SA-105 | | .655" | .062" | integral | UW16.1(C | | |
| ev.ctrl/ | | 3 | 2.9''ID | W.Neck | SA-105 | | 1.24" | .062" | integral | UW16.1(C) |) | |
| n1/trans | | 3 | 3.83"ID | W.Neck | SA-105 | | 1.305" | .062" | integral | UW16.1(C |) | |
| hermo w | | 1 | | W.Neck | SA~105 | · · · · · · · · · · · · · · · · · · · | 1.00" | .062" | integral | UW16.1(C |) | |
| iquid o | | 1 | | W.Neck | SA-105 | | 3.25" | .062" | integral | UW16.1(C | | |
| | | | • | | -1 | 2 | | · · · · · · · · · · · · · · · · · · · | | | welded t | o chell |
| . Supports: | Skirt | U0 | | ugs | Leg | js <u> </u> | Other | s pac | <u> </u> | Attached | | |
| | | (Yes o | r No) | (No |).) | (No | o.) | | (Describe) | | (Whe | ere and How) |
| | | | | | | | i Inspectors ha | ve been furn | ished for the following | items of the rep | ort: | |
| • | • | | umber, mfg's. n | | ntitying numbe | er) | 19/151 HD# | and W.C |). 18451 HD#2 a | od mfa's h | v Conrex | Steel Ltd |
| 2 for | n U-2A | Lype | : Two piece | l wolded | to bood m | ofale cor | no • 11/ | 16.98 and | 1 1147-98 both | by RNG Pro | -Tech inc | L ennoxy |
| | | | | | tu neau ii | 114 5 5c1 | . 110 . [[- | HJE ZO BEN. | 1 (147-70 10011 | by mario | TCCH INC | . LCITION |
| . Remarks: | | | orage bull | | /· | 7 (/ * | D 70 40 | 0/4) | | | | |
| | | | 4" ID x 15 | | (metric: | 2.66M I | D x 38.48 | 1 U/A) | | <u> </u> | | |
| | | | 104904 US | | | | | | | | | |
| | <u>8 MAW</u> | P 172 | 4/-76 kPa : | at 65°C | M.D.M.T. | -27°C a | t 1724/-76 | kPa | 1 | | | ! |
| | | | | | | | | | | | | |
| | 2/19/ | | | | <u>``</u> | nufacturer) | OF SHOP IN | SPECTION | | (Repre | sentative) | |
| I, the und | dersigned | , holdir | ng a valid com | mission iss | | | | | re Vessel Inspector | | | ce of <u>Queb</u> |
| and emp | loyed by | | Régie du | Bâtiment | | | | | | ouv. du Que | | ave inspecte |
| the press | ure vess | el desc | ribed in this M | lanufacture: | r's Data Rep | ort on Fai | B17 19 | 99 | , and state that, to t | he best of my | knowledge | and belief, th |
| Manufact | urer has o | onstru | cted this press | ure vessel i | n accordance | e with ASMI | E Code. Secti | on VIII. Divi | sion 1. By signing th | is certificate ne | either the Ins | spector nor hi |
| | | | | | | | | | lanufacturer's Data F | | | |
| | | | | | | | | | f any kind arising fro | | | |
| noi nis ei | ilipioyei si | iai vo | nacie in any n | iailior ioi a | ny personan | injury or pro | porty damage | , O, a 1033 0 | any tano anomy ne | in or comingon | | |
| Day F | 0 19- | 190 | Signed | a marin | 4/ | <i>ii</i> _ | <u>/</u> | Cii | | 1. 646 | Z _ | - |
| Date/ | 75 - 7 - | | / Signed _ | | | | | Commissi | ons <u>(///ce/</u> | 7667775 | State Due | doon and No |
| | | | | | | rized Inspec | <u> </u> | | (Nat'l Board incl. | encorsement, | State, Prov | /ince and No |
| | | | | | | | LD ASSEME | | | | | |
| We certif | y that the | statem | ents on this re | port are corr | rect and that i | the field ass | embly constr | uction of all | parts of this vessel o | onforms with t | ne requiren | nents of ASM |
| Code, Se | ection VIII | , Divisi | on 1, | | | | | | | | | |
| U Certific | cate of Au | thoriza | tion No. | | | | Expires _ | | | | 19 | |
| | | | | | | | | | | | | |
| Date | | | Name | | | | | | Signed | | | |
| | | | Hallio . | | . /A | ssembler) | | | | /Poero | sentative) | |
| | | | | | | | ELD ASSEM | OLV INCEP | CTION | (nepre | Scritative) | |
| 14. | | L . I P | | | | | | | | a and the Or- | o or Draid- | on of |
| | - | | _ | | ·= | | | | re Vessel Inspector | s and the Sta | ie or Provin | CE 01 |
| and emp | | | | | | | | | | · · · · · · · · · · · · · · · · · · · | | |
| have co | mpared th | ne stat | ements in thi | | | • | | - | re vessel and state | | | |
| | | | | | | | | | ave been inspected | | | |
| and belie | f, the Mar | ufactu | rer has constr | ucted and a | ssembled thi | s pressure | vessel in acco | ordance with | n ASME Code, Secti | on VIII, Divisio | n 1. The de | scribed vess |
| | | | | | | | | | either the Inspector | | | |
| | | | | | | | | | t. Furthermore, neit | | | |
| | | | | | | | | | om or connected wit | | | p5, 5, 5 |
| DE HADIO | in any ma | uuier 1 | or any person | ar injury of [| hinheith agu | naye or a lo | oo ur arry KIII | u anomy il | AN OF COMMECIEU WIL | n una mapecu | O11. | |
| D-+- | | | 0: ! | | | | • | Ca!! | | | | |
| Date _ | | | Signed | | | | | Commissi | ons (Nat'l Board incl. | | <u> </u> | |
| | | | | | /A.ithai | rized Inspec | ntarl | | (Not! Board incl | andarcament | State Drav | unner and Ne |

FORM U-2A MANUFACTURER'S PARTIAL DATA REPORT (ALTERNATIVE FORM)

A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

| | nufactured and | certified b | y RNG | PRO-TECH | INC., 69 PA | RSON INDU | STRIAL DR | IVE, LENNOXVI | ILLE, PQ J1 | M 1Z4 C/ | ANADA | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------|-----------------|------------------------------------------------------|--------------------------------------------------|-------------------------------------|--------------------------|
| | nufactured for | | | | | SHERBROO | KE, QC J1 | (Name and address K 3C3 | s of manufactur | er) | | | | | |
| | ation of installa | tion SA | BLE OFF | SHORE EN | IERGY PRO | JECT, POIN | (N T TUPPER, | ame and address of NS | purchaser) | | | | | | |
| | | | | | F VESSEL | | | (Name and ad | dress) 1146-98 | | | | 8124 | 1.8 | |
| 4. Typ | | (De | scription of v | vessel part (she | ll, two-piece hea | d, tube bundle)) | | | | serial No.) | | | (CRI | N) 1998 | |
| | (Nat'l Bd. N | lo.) | | · (D | 0047-2 R3 rawing No.) | | | | (Drawing prep | | | · | | (Year built |) |
| 5. ASI | ME Code, Sect | ion VIII, Di | iv. 1 | | Addenda 19 | | | Code Case No. | | | Special | Service per U | JG-120(d) | | |
| 6. She | ell: (a) No. of c | ourse(s): | | | 2 | | <u> </u> | l length (ft & in.): | | | | 236" | D 0 C) | Heat Tre | |
| | Cours | | | | Material | | nickness . Corr. | | oint (Cat. A) | | Type | Circum. Joint (Cat. A, B & | | Temp. | Time |
| No. | Diameter, in. 144"ID | Length (| | Spec./Grade or Type SA-516-70N | | Nom 1.125 | | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | ull, Spot, None Eff. Full 1 | | 1 Full | | 1 | | |
| 1 | 144"ID | 12 | | | -516-70N | 1.125 | .0625" | 1 | Full | 1 | 1 | Full | 1 | | |
| | | | | | | | | <u> </u> | | | | | | | |
| 7. Hea | ads: (a) | | (Mail S | | -70N NO HT or Type) H.T 1 | | | (b) | | | No., Grade or T | | ne & Temp | | |
| | Location (Top, | on (Top, Thickness | | | dius Knuckle | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressu | | | Ū | gory A , Spot, None E | |
| (a) | Bottom, Ends) End | Min. 1.107" | Corr. .0625" | Crown | Kildekie | 2:1 | | 1 00000 | | | CONC | AVE | S | - | 1 |
| (b) | If removable, be | olto upod (| dosoribo | other fasten | ing) | | | | <u> </u> | <u> </u> | | | | | j |
| i | ir removable, bi | ons useu (| uescribe | Ollier lasteri | - | | | | (Mat'l Spec. I | | 1.5 | 47 | ° F at | 250 | psi. |
| 8. MA | .WP | 250 | | 11 External | psi at max | x. temp. | 149 Internal | 149 External | _ | n. design | metal temp. | -17 | га: | 230 | _ psi. |
| , y | act test NO, | EXEMPT | PER UG | | | | | and the component(s | | 1 | | | | | |
| 10. H | ydro., pneu., | or comb | . test pres | SS | | | Proof test | | | | | | | | |
| | ozzles, inspecti | | | | | | \ | | Thickness | Painfe | orcement | How | Attached | Loca | tion |
| | pose (Inlet t, Drain, etc. No. | Diamete or Size | | nge pe | Nozzle | <u>Material</u> | Flange | Nom. | Corr. | | aterial | Nozzle | Flange | (Insp. (| |
| | | | | | | | | | | | | | | | |
| | | <u> </u> | | | | | | | - | | | | - | - | |
| | | | | | | | | | | | | | | - | |
| 12. Si | upports: Skirt | <u> </u> | 10 | Lugs | 0 | Legs | 0 | Others | | | Attac | hed | - | | |
| | | (Yes | or No) | - — "ID X 31 | (No.) 15"O/A (| METRIC: | (No.) 3658mm i | D X 8001mr | (Descr | ibe) SOEP I | TEM D210 | DOE. | (Where a | and How) | |
| STAN | MPING ON | SHELL N | NEAR H | EAD. SEI | E ATTACH | ED FORM | U-2A FC | R THE HEAL | D NO. W | 018451 | HD.6. | | | | |
| | | | | | CE | RTIFICATE | OF SHOP | / FIELD COM | PLIANCE | | | | and nort a | onform | |
| 1 | | a cialama | ents mad | le in this rep | ort are correct VIII. Division | ct and that all 1. | l details of m | naterial, constru | ction, and w | orkmansr | | | sser part c | | |
| We | certify that th | for Pressi | ure Vesse | 35. Section 1 | | | | | | | | 10V. 6 | | | |
| to th | ne ASME Code ertificate of Aul | for Pressu horization | No. | | | 22, | 183 | | E) | cpires | | | | 2001 | |
| to th | ne ASME Code ertificate of Aut 1008 DF | for Pressu horization | No. | | | 22, RNG PRO-1 | ECH INC. | | | Signed | a) e | 5 6 1 10 ann | C o li | cel | |
| to the | ne ASME Code ertificate of Aut a 1998 DE | for Pressi horization C 1 8 Na | No. me | | CE | 22, RNG PRO-1 (Manufa ERTIFICATI | ECH INC. | P / FIELD INSF | PECTION | Signed | .gr | (Repre | esentative) | cit | |
| to the U C Date | ne ASME Code ertificate of Aut e 1998 DE | for Pressi horization C 1 8 Na | No. me | nmission iss | CE ued by The N | 22, RNG PRO-1 (Manufa ERTIFICATI National Boal | ECH INC. | P / FIELD INSF and Pressure Ve | PECTION | Signed | .gr | (Repre | esentative) | QUEBE e inspec | C |
| to the U C Date | e undersigned, employed by | for Pressi thorization C 1 8 _{Na} holding a | ne valid con | nmission iss REGIE Manufacture | CE ued by The N DU BATIME er's Data Rec | RNG PRO-T (Manufa ERTIFICATI Vational Boar NT DU QUE | ECH INC. | and Pressure Ve | PECTION essel Inspect of | Signed tors and t | he State or I | Province of BEC best of my | knowledge | QUEBE e inspect | C ted the |
| I, th and pres | ne ASME Code ertificate of Aut a 1998 DE e undersigned, e employed by ssure vessel pa nufacturer has | for Pressi thorization C 1 8 Na holding a art describe constructe | valid con | nmission iss REGIE Manufacture | CB ued by The N DU BATIME er's Data Rep | RNG PRO-T (Manufa ERTIFICATI National Boar NT DU QUE port on (ordance with | ECH INC. cturer) E OF SHOP rd of Boiler a BEC ASME Code | and Pressure Ve | PECTION essel Inspect of Oversion 1. I | Signed tors and t GOU and state By signing | he State or I | Province of BEC best of my sate neither ort. Further | knowledge the Inspec | QUEBE e inspecte and belator nor | C ted the ief, the |
| In the land of the | ne ASME Code ertificate of Aut a 1998 DE e undersigned, e employed by ssure vessel pa nufacturer has | for Pressi horization C 1 8 a holding a holding a art describe constructe as any war mployer s | valid con ed in this to this pre ranty, exp | nmission iss REGIE Manufacture | CB ued by The N DU BATIME er's Data Rep | RNG PRO-T (Manufa ERTIFICATI National Boar NT DU QUE port on (ordance with | ECH INC. cturer) E OF SHOP rd of Boiler a BEC ASME Code | and Pressure Ve e, Section VIII, Lel part described erty damage or a | PECTION essel Inspect of Oversion 1. I | Signed tors and t GOU and state By signing ufacturer kind aris | he State or I | Province of BEC best of my sate neither ort. Further | knowledge the Inspec | QUEBE e inspecte and belator nor | C ted the ief, the |