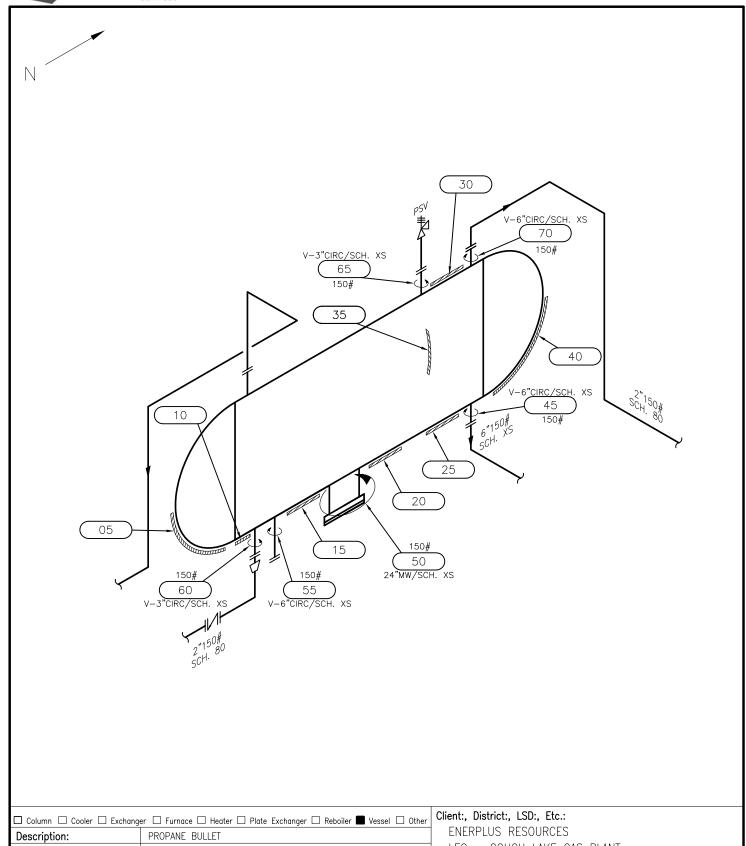
Enerplus Resources Visual External Inspection Report – Pressure Vessels

| 4 | Inst | allati | ion | Exte | ernal | | | | | | | | | | | | | | | | | | AI FR 023 |
|--------------|--------------|------------------------|--------------------------------|---|--|---------|----------------------|--|---------------------|----------|----------------------------|-------|----------|---------|----------|----------------------|---------|-----------------------|-----------------|---------------------|--------------|--------------------|---------------|
| Date | ə: | | | Novemb | November 29, 2012 Description: Scott Abbott Equipment Name: | | | | | | | | Ves | sel | | Exch | ang | er 🗌 | Boiler | E# | E230 |)52 | |
| Insp | ecto | or: | | Scott Ab | | | | | | | | | Pro | pane | Bul | let | | | | CRN | l # | F398.2 | |
| Age | nt C | o: | | Integrity | / Tes | ting | Services | Juri | isdic | tion | # | | A01 | 3899 | 7 | | | | | Seri | al# | 28319A | |
| Owi | ner: | | | Enerplu | | | | | nufac | cture | r: | Wes | terr | n Roc | k Bi | t Co. | | | Yea | r Bui | lt: | 1987 | |
| Dist | rict: | | | Shallow | Gas | : Hai | nna | Fiel | d: | | Leo | Sou | th | | | | | | LSD: | | | 1-20-035 | 5-17W4M |
| Serv | | | | Sweet | _ | Sour | | | | • | | | | | | | | | | MDI | | N/S | |
| Zon | | MA | WP | MAWT | PSV F | | PSV Tag E# | PSV | / Man | nufact | urer | | PSV | S/N# | | PSV Inlet size | t | PSV Outlet size | PSV Serv. Co | PSV | Serv. ate | PSV CSO? Y/N | PSV Capacity |
| She Side | | 17. kF | | 46°C | 17: kF | | E59438 / E59439 / | | Fis | her | | | N | I/S | | 50.8m | m 7 | 6.2mm | United Valve | | May- 012 | See comment | 10203 SCFM |
| Tube Side |) | - | | - | | | E59435 / E59436 | | | | | | | | | | | | | | | | |
| Othe | er | - | | - | | | | | | | | | | | | | | | | | | | |
| | | | | Shell | | | Head | | | Cha | nnel | | | Tul | be | | | | | Con | nment | | |
| Mate | erial | | | SA-516-70 |) | | SA-516-70 |) | | | | | | | | | | | | | | | |
| Nom | inal T | | | 21.37mm | | | 21.23mm | | | | | | | | | | | | | | | | |
| CA | | | | 1.58mm | | | 1.58mm | | | | | | | | | | | | | | | | |
| Orie | ntatio | n | ✓ | Hor | Ver | Foun | dation: | | Cond | crete | | | Grav | vel | | Timbe | rs | √ Stee | el Cond | dition | Good | d condition | n |
| | | | √ | Saddle | 7 | Seal | Welded | Ħ | Free | to Mo | ove | | Con | dition: | | Good | | dition | | | | | |
| | | | П | Skirt | Ħ | | Of Debris | | | | | | | dition: | | | | | | | | | |
| S | uppo | rt | Ī | Hangers | = | Secu | | | | | | | | dition: | | | | | | | | | |
| | | | | | <u> </u> | | | | | | | | | dition: | | | | | | | | | |
| Ove | rall | | Gen | | ral Condition: Secure and in good condition | | | | | | | COII | | Flact | tical Gr | round | dina | ✓ Direc | nt . | ПП | Indirect | None | |
| | Surfa | | <u>√</u> | Painted Insulated Fire-proofed Cladde | | | | | | | dod | | nditio | | Ouric | anig | V Direc | <i>,</i> (| L L | munect | None | | |
| | Fixtu | | √ ✓ | Ladder Platform Other | | | | | | | ueu | CO | Hullic | JII. | | | | | | | | | |
| | | | _ | | | | | | - | <u> </u> | | | | | | П | - | D - ! f - | | | пт | 10/ | Hala Davasant |
| - | | n Noz | zies | | Man | | = | ort | Siz | ze: | | | | T _ | | | | Reinfo | rcement P | ad | Ш | Weep | Hole Present |
| Davi | t Arm | | | ✓ | Pres | | Grea | ased | Ш | | | nutte | ed | | nditio | | | | | 1 | | 1 | |
| | Щ | PSV | | | | | ipported | Щ | | ined p | | | Щ | Dra | ins p | roperly | y L | We | ell Coated | Com | ment: | N/A | |
| _ | $ \angle $ | Inlet | | | ✓ | Su | ipported | ✓ | Joi | ined p | er co | ode | Ш | Fre | e froi | m leaks | s L | ∠ We | ell Coated | Com | ment: | Good cor | dition |
| Piping | ✓ | Outle | et | | 7 | Su | ipported | ✓ | Joi | ined p | er co | ode | Ш | Fre | e froi | m leaks | s [| √ W€ | ell Coated | Com | ment: | Good cor | dition |
| Pip | ✓ | Drair | 1 | | ✓ | Su | ipported | ✓ | Joi | ined p | er co | ode | Ш | Fre | e fro | m leaks | s | √ We | ell Coated | Com | ment: | | |
| | | Instr | umer | ntation | | Su | ipported | | | | | | | Fre | e fro | m leaks | s | We | ell Coated | Com | ment: | | |
| | | Proc | ess f | luid identif | ied | | | | Flow | direc | tion i | marke | ed | | Com | ment: | N | I/A | | | | | |
| | | | 4 | Manual Is | olatio | n Val | lve | | | Free | from | leak | S | Com | ment | : 0 | Good | condit | ion | | | | |
| ١ | /alve | s | | Automate | d Cor | ntrol \ | /alve | | | Free | from | leak | S | Comi | ment | : | | | | | | | |
| | | | | Vents and | d Drai | ns Pl | uaaed | | Co | omme | nt: | | | | | | | | | | | | |
| | | | П | Pressure | | | Readin | ıa: | | | | Cond | dition | 1: | N/A | | | | | | | | |
| G | auge | es | Ħ | Temperat | ure | | Readin | • | | | | | dition | | N/A | | | | | | | | |
| - | Siaht | Glas | <u> </u> | | Fluid | l eve | | _ | ling % | 6 | | Conc | | onditio | | N/A | | | | | | | |
| _ ` | ngiit | Olas | | | | | | | | | octic | an (| | | | | 00.00 | shodul | oc and fl | ange | roti | age to th | o D&D |
| | pect mma | | dra | SV CSO was not at the time of the inspection. Con awings. Vessel and associated piping in good conspection. | | | | | | | | | | | | | | | | | | | |
| | | mend | | | | | | | | | | | | | | | | | | | | NCR | <u> </u> |
| Not | ning a | at thi | s tim | ie. | | | | | | | | | | | | | | | | | | | |
| Into | urity C | Status | | Quitabl | o for | contir | nued Servi | 00 | √ Y | 00 | | lo | | Imm | odio | to ropo | ire r | equired | E., | ro ron | aire ra | equired | |
| | | Statu | | | ervice | | | of sei | • | | = | Stoc | <u> </u> | 1000 | iculd | ie iepa | ano It | -quii c u | rutu | ιο τ ο ρ | ano It | yuneu | |
| IIIVC | _ <u>_</u> | | | erval | NOC | | | 01 361 | IVICC | | <u> </u> | 0100 | K | | Year | s or C | hanç | ged to | | | | | |
| off | PSV | Inter | Interval | | | | | | Years or Changed to | | | | | | | | | | | | | | |
| Sign off | Insp | spector Signature | | | | | | Jurisdictional Inspector # API 510# 30978 / IPV# 00424 | | | | | | | | | | | | | | | |
| | Chie | f/Ser | //Senior Signature (if needed) | | | | | | | | Jurisdictional Inspector # | | | | | | | | | | | | |
| | Forn | form Last Revised xxxx | | | | | | | | | | | | | | | | | | | | | |

Extra Comments NOTE: 1. ALL PIPING FLANGE RATINGS MATCH P&ID DRAWINGS PROVIDED BY CLIENT. 2. PIPING SCHEDULE IS SUPPOSED TO BE SCH.40 BUT SCH.80/XS PIPING WAS USED. 3. NO UT THICKNESS MEASUREMENTS WERE TAKEN AT THE REQUEST OF RON SZOPA. TO COMPRESSOR BUILDING 2"150# SCH.80





| ☐ Column ☐ Cooler ☐ Exchang | er 🗌 Furnace 🗌 Heater 🗌 Plate Exchanger 🗌 Reboiler 🔳 Vessel 🗌 Other | Client:, District:, LSD:, E | | | | |
|-----------------------------|---|-----------------------------|----------------------|--|--|--|
| Description: | PROPANE BULLET | ENERPLUS RESOUR | | | | |
| PRN No.: | A0138997 | LEO — GOUGH LAK | E GAS PLANT | | | |
| Manufactures Serial No.: | 28319A | 11-20-035-17W4M | | | | |
| CRN: | F398.2 | | | | | |
| Equipment No. (OIP): | E23052 | | | | | |
| National Board No.: | N/S | | | | | |
| Other: | | Tech.: SHA | Date: 11/2012 | | | |
| | | ITS Job No.: 2069 | DWG No.: 032 | | | |



Unit: S-002

FACILITY: LEO/GOUGH LAKE GAS PLANT MANUFACTURER: WESTERN ROCK LSD: 100/11-20-035-17W4M DESIGN PRESSURE: 1724 kPa / 250 psi ITEM DESC.: PROPANE BULLET DESIGN TEMP.: 46 C / 115 F

EQUIP / OIP#: E23052 PROV. REG. #: A0138997

VESSEL CORROSION ALLOWANCE: 1.58 mm

SERIAL #: 28319A CRN.: F398.2

TOTAL CAUTION / ACTION TML: 0

Item # 032

TML No.: 5 S HEAD T-B

| DATE E | | 01/1987 SA51670 | | | | AGE THICK IUM THICK | | | 25.52 25.10 | | |
|--------|----------------------|---------------------------------|-----------------------------|-------------------------------|---------------------------------|--------------------------------|------------------------------|-----------------------------|----------------------------|-------------------------------|---------------------------------|
| Pts. | Nom. Thick. mm | CA + Steel Mfg.Tol. mm | Nom. -CA -Toll. mm | B/L Survey Thick. mm | Prev. Survey Thick. mm | Last Survey Thick. mm | Short Term CR mm/yr | Long Term CR mm/yr | Rem. Half Life yr | Future UT Reading mm/yy | Action/Caution Required Item |
| | | | | 01/1987 | | 11/2012 | | | | | |
| 5.01 | 21.23 | 1.58 | 19.65 | 21.23 | N/A | 25.70 | 0.0000 | 0.0000 | 100.00 | | NO |
| 5.02 | 21.23 | 1.58 | 19.65 | 21.23 | N/A | 25.50 | 0.0000 | 0.0000 | 100.00 | | NO |
| 5.03 | 21.23 | 1.58 | 19.65 | 21.23 | N/A | 25.40 | 0.0000 | 0.0000 | 100.00 | | NO |
| 5.04 | 21.23 | 1.58 | 19.65 | 21.23 | N/A | 25.10 | 0.0000 | 0.0000 | 100.00 | • | NO |
| 5.05 | 21.23 | 1.58 | 19.65 | 21.23 | N/A | 25.70 | 0.0000 | 0.0000 | 100.00 | | NO |
| 5.06 | 21.23 | 1.58 | 19.65 | 21.23 | N/A | 25.70 | 0.0000 | 0.0000 | 100.00 | | NO |

| TMI | No: | 10 | RTM SH S-N | J |
|-----|-----|----|------------|---|

| DATE B | | 01/1987 | | | | AGE THICK | | | 22.32 22.20 | | |
|--------|--------|-------------------|---------------|------------------|------------------|------------------|------------|------------|----------------|---|---------------------------------|
| MATER | IAL: | SA51670 | | | MIINIIV | IUM THICI | SNESS ME | EASUKED: | 22.20 | 111111. | |
| Pts. | Nom. | CA + | Nom. | B/L | Prev. | Last | Short | Long | Rem. | Future UT | A -+: /C+: |
| | Thick. | Steel Mfg.Tol. | -CA -Toll. | Survey Thick. | Survey Thick. | Survey Thick. | Term CR | Term CR | Half Life | Reading mm/yy | Action/Caution Required Item |
| | | mm | mm | mm | mm | mm | mm/yr | mm/yr | yr | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | • |
| | | | | 01/1987 | | 11/2012 | | | | | |
| 10.01 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.20 | 0.0000 | 0.0000 | 100.00 | | NO |
| 10.02 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.20 | 0.0000 | 0.0000 | 100.00 | • | NO |
| 10.03 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.40 | 0.0000 | 0.0000 | 100.00 | • | NO |
| 10.04 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.50 | 0.0000 | 0.0000 | 100.00 | • | NO |
| 10.05 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.30 | 0.0000 | 0.0000 | 100.00 | • | NO |
| 10.06 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.30 | 0.0000 | 0.0000 | 100.00 | | NO |

If Baseline (B/L) Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness. Minimum Thickness is calculated

Manufacturing Tolerance of plate is + or - 0.25mm (0.010") (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

(*) and GREEN Represent 25% of the last thickness readings, which have the shortest remaining half life.

BLUE (Caution TML Point) - if Corrosion Rate exceed a 0.250mm / 0.009 in. per yr. or Half Life is less than 15 years.

 $RED\ (Action\ TML\ Point)-If\ Remaining\ Half\ \ Life\ is\ 0\ and\ Last\ Survey\ Thickness\ is\ below\ Nominal-CA-Tolerance\ Thickness.$

 $Design\ Minimum\ Thickness = Nom.\ Thick.\ -\ CA\ -\ Manufacturing\ Steel\ Tolerance.$

Manufacturing Tolerance of pipe and forged fittings is + or -12.5% (May or may not apply dependent upon the Client's Owner-User Integrity Management System).



Unit: S-002

FACILITY: LEO/GOUGH LAKE GAS PLANT MANUFACTURER: WESTERN ROCK LSD: 100/11-20-035-17W4M DESIGN PRESSURE: 1724 kPa / 250 psi ITEM DESC.: PROPANE BULLET DESIGN TEMP.: 46 C / 115 F

EQUIP / OIP#: E23052 PROV. REG. #: A0138997

VESSEL CORROSION ALLOWANCE: 1.58 mm

SERIAL #: 28319A CRN.: F398.2

TOTAL CAUTION / ACTION TML: 0

Item # 032

TML No.: 15 BTM SH S-N

| DATE E | | 01/1987 SA51670 | | | | AGE THICK IUM THICK | | | 21.78 21.50 | | | |
|--------|----------------------|---------------------------------|-----------------------------|-------------------------------|---------------------------------|--------------------------------|------------------------------|-----------------------------|----------------------------|-------------------------------|--------------------------------|---|
| Pts. | Nom. Thick. mm | CA + Steel Mfg.Tol. mm | Nom. -CA -Toll. mm | B/L Survey Thick. mm | Prev. Survey Thick. mm | Last Survey Thick. mm | Short Term CR mm/yr | Long Term CR mm/yr | Rem. Half Life yr | Future UT Reading mm/yy | Action/Cautio Required Iten | |
| | | | | 01/1987 | | 11/2012 | | | | | | |
| 15.01 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.50 | 0.0000 | 0.0000 | 100.00 | • | NO | |
| 15.02 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 21.50 | 0.0000 | 0.0000 | 100.00 | | NO | * |
| 15.03 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 21.60 | 0.0000 | 0.0000 | 100.00 | | NO | * |
| 15.04 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 21.70 | 0.0000 | 0.0000 | 100.00 | | NO | * |
| 15.05 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 21.70 | 0.0000 | 0.0000 | 100.00 | | NO | * |
| 15.06 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 21.70 | 0.0000 | 0.0000 | 100.00 | | NO | * |

| TMI | No. | 20 | RTM SH S-N |
|-----|-----|----|------------|

| DATE I | | 01/1987 | | | | AGE THICK | | | 22.07 22.00 | | |
|--------|----------------------|---------------------------------|-----------------------------|-------------------------------|---------------------------------|--------------------------------|------------------------------|-----------------------------|----------------------------|-------------------------------|---------------------------------|
| MATER | CIAL: | SA51670 | | | MIININ | IUM THICK | MESS ME | EASURED: | 22.00 | 111111. | |
| Pts. | Nom. Thick. mm | CA + Steel Mfg.Tol. mm | Nom. -CA -Toll. mm | B/L Survey Thick. mm | Prev. Survey Thick. mm | Last Survey Thick. mm | Short Term CR mm/yr | Long Term CR mm/yr | Rem. Half Life yr | Future UT Reading mm/yy | Action/Caution Required Item |
| | | | | 01/1987 | | 11/2012 | | | | | |
| 20.01 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.20 | 0.0000 | 0.0000 | 100.00 | | NO |
| 20.02 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.00 | 0.0000 | 0.0000 | 100.00 | | NO |
| 20.03 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.10 | 0.0000 | 0.0000 | 100.00 | • | NO |
| 20.04 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.00 | 0.0000 | 0.0000 | 100.00 | | NO |
| 20.05 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.00 | 0.0000 | 0.0000 | 100.00 | • | NO |
| 20.06 | 21.37 | 1.58 | 19.79 | 21.37 | N/A | 22.10 | 0.0000 | 0.0000 | 100.00 | | NO |

If Baseline (B/L) Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness. Minimum Thickness is calculated

 $Design\ Minimum\ Thickness = Nom.\ Thick.\ -\ CA\ -\ Manufacturing\ Steel\ Tolerance.$

Manufacturing Tolerance of pipe and forged fittings is + or -12.5% (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

Manufacturing Tolerance of plate is + or - 0.25mm (0.010") (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

^(*) and GREEN Represent 25% of the last thickness readings, which have the shortest remaining half life.



Unit: S-002

FACILITY: LEO/GOUGH LAKE GAS PLANT MANUFACTURER: WESTERN ROCK
LSD: 100/11-20-035-17W4M DESIGN PRESSURE: 1724 kPa / 250 psi
ITEM DESC.: PROPANE BULLET DESIGN TEMP.: 46 C / 115 F

EQUIP / OIP#: E23052 PROV. REG. #: A0138997

VESSEL CORROSION ALLOWANCE: 1.58 mm

SERIAL #: 28319A CRN.: F398.2

TOTAL CAUTION / ACTION TML: 0

Item # 032

TML No.: 25 BTM SH S-N

AVERAGE THICKNESS MEASURED: DATE BUILT: 01/1987 21.67 mm. MATERIAL: MINIMUM THICKNESS MEASURED: 21.60 mm. SA51670 Pts. Nom CA +Nom B/L Prev. Last Short Long Rem Future UT Survey Thick. Steel -CA Survey Survey Term Term Half Reading Action/Caution Thick. -Toll. Mfg.Tol. Thick. Thick. CR CR Life mm/yy Required Item mm mm/yr mm mm mm mm mm mm/yr yr 01/1987 11/2012 25.01 21.37 1.58 19.79 21.37 N/A 21.70 0.0000 0.0000 100.00 NO 25.02 21.37 1.58 19.79 21.37 21.70 0.0000 0.0000 100.00 NO N/A 25.03 21.37 19.79 21.37 21.60 0.0000 0.0000 100.00 1.58 N/A NO 21.37 25.04 1.58 19.79 21.37 N/A 21.60 0.0000 0.0000 100.00 NO 25.05 21.37 19.79 21.37 21.70 0.0000 0.00001.58 N/A 100.00 NO 25.06 21.37 21.37 21.70 0.0000 1.58 19.79 N/A 0.0000 100.00 NO

TML No.: 30 TOP SHELL S-N

DATE BUILT: 01/1987 AVERAGE THICKNESS MEASURED: 21.67 mm. MATERIAL: MINIMUM THICKNESS MEASURED: 21.60 mm. SA51670 Long Future UT Pts. Nom. CA +Nom. B/L Prev. Last Short Rem. Thick. Steel -CA Survey Survey Survey Term Term Half Reading Action/Caution mm Mfg.Tol. -Toll. Thick. Thick. Thick. CR CR Life mm/yy Required Item mm mm mm mm mm/yr mm/yr 01/1987 11/2012 30.01 21.37 1.58 19.79 21.37 0.0000 0.0000 N/A 21.80 100.00 NO 30.02 21.37 19.79 21.37 21.70 0.0000 0.0000 100.00 1.58 N/A NO * 30.03 21.37 1.58 19.79 21.37 21.60 0.0000 0.0000 100.00 N/A NO 30.04 21.37 1.58 19.79 21.37 N/A 21.70 0.0000 0.0000 100.00 NO * 30.05 21.37 1.58 19.79 21.37 N/A 21.60 0.0000 0.0000 100.00 NO * 30.06 21.37 1.58 19.79 21.37 N/A 21.60 0.0000 0.0000 100.00 NO *

If Baseline (B/L) Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness. Minimum Thickness is calculated

Design Minimum Thickness = Nom. Thick. - CA - Manufacturing Steel Tolerance.

Manufacturing Tolerance of pipe and forged fittings is + or -12.5% (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

Manufacturing Tolerance of plate is + or - 0.25mm (0.010") (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

^(*) and GREEN Represent 25% of the last thickness readings, which have the shortest remaining half life.



Unit: S-002

NO

NO

FACILITY: LEO/GOUGH LAKE GAS PLANT MANUFACTURER: WESTERN ROCK
LSD: 100/11-20-035-17W4M DESIGN PRESSURE: 1724 kPa / 250 psi
ITEM DESC.: PROPANE BULLET DESIGN TEMP.: 46 C / 115 F

EQUIP / OIP#: E23052 PROV. REG. #: A0138997

VESSEL CORROSION ALLOWANCE: 1.58 mm

SERIAL #: 28319A CRN.: F398.2

TOTAL CAUTION / ACTION TML: 0

13.08 mm.

Item # 032

TML No.: 40 N HEAD T-B

AVERAGE THICKNESS MEASURED: DATE BUILT: 01/1987 25.42 mm. MINIMUM THICKNESS MEASURED: MATERIAL: 25.00 mm. SA51670 Pts. Nom CA +Nom. B/L Prev. Last Short Long Rem Future UT Action/Caution Thick. Steel -CA Survey Survey Survey Term Term Half Reading Mfg.Tol. -Toll. Thick. Required Item Thick. Thick. CR CR Life mm/yy mm mm mm/yr mm mm mm mm mm/yr yr 01/1987 11/2012 40.01 21.23 21.23 25.80 1.58 19.65 N/A 0.0000 0.0000 100.00 NO 40.02 21.23 19.65 21.23 0.0000 NO 1.58 25.40 0.0000100.00 N/A 40.03 21.23 19.65 21.23 25.40 0.0000 0.0000 100.00 1.58 N/A NO 40.04 21.23 21.23 25.20 1.58 19.65 N/A 0.00000.0000100.00 NO 40.05 21.23 21.23 25.00 0.0000 0.0000 100.00 1.58 19.65 N/A NO NO 40.06 21.23 21.23 25.70 0.0000 0.0000 1.58 19.65 N/A 100.00

TML No.: 45 6"NOZ NWSE 150#

1.58

1.58

DATE BUILT: 01/1987

10.97

10.97

45.03

45.04

| MATER | RIAL: | | | | MINIM | IUM THIC | KNESS ME | EASURED: | 12.70 | mm. | |
|-------|----------------------|---------------------------------|-----------------------------|-------------------------------|---------------------------------|--------------------------------|------------------------------|-----------------------------|----------------------------|-------------------------------|---------------------------------|
| Pts. | Nom. Thick. mm | CA + Steel Mfg.Tol. mm | Nom. -CA -Toll. mm | B/L Survey Thick. mm | Prev. Survey Thick. mm | Last Survey Thick. mm | Short Term CR mm/yr | Long Term CR mm/yr | Rem. Half Life yr | Future UT Reading mm/yy | Action/Caution Required Item |
| | | | | 01/1987 | | 11/2012 | | | | | |
| 45.01 | 10.97 | 1.58 | 9.39 | 10.97 | N/A | 12.70 | 0.0000 | 0.0000 | 100.00 | | NO |
| 45.02 | 10.97 | 1.58 | 9.39 | 10.97 | N/A | 13.20 | 0.0000 | 0.0000 | 100.00 | | NO |

0.0000

0.0000

0.0000

0.0000

100.00

100.00

13.20

13.20

AVERAGE THICKNESS MEASURED:

If Baseline (B/L) Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness. Minimum Thickness is calculated

N/A

N/A

Design Minimum Thickness = Nom. Thick. - CA - Manufacturing Steel Tolerance.

9.39

9.39

10.97

10.97

Manufacturing Tolerance of pipe and forged fittings is + or -12.5% (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

Manufacturing Tolerance of plate is + or - 0.25mm (0.010") (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

(*) and GREEN Represent 25% of the last thickness readings, which have the shortest remaining half life.

BLUE (Caution TML Point) - if Corrosion Rate exceed a 0.250mm / 0.009 in. per yr. or Half Life is less than 15 years.



Unit: S-002

FACILITY: MANUFACTURER: WESTERN ROCK LEO/GOUGH LAKE GAS PLANT LSD: 100/11-20-035-17W4M DESIGN PRESSURE: 1724 kPa / 250 psi ITEM DESC .: PROPANE BULLET DESIGN TEMP .: 46 C 115 F

EOUIP / OIP#: E23052 PROV. REG. #: A0138997

VESSEL CORROSION ALLOWANCE: 1.58 mm

SERIAL #: 28319A CRN.: F398.2

TOTAL CAUTION / ACTION TML: 0

Item # 032

TML No.: 50 24"NOZ NWSE 150#

AVERAGE THICKNESS MEASURED: DATE BUILT: 01/1987 13.23 mm. MINIMUM THICKNESS MEASURED: MATERIAL: 12.10 mm.

Pts. Nom CA +Nom. B/L Prev. Last Short Long Rem Future UT Action/Caution Thick. Steel -CA Survey Survey Survey Term Term Half Reading Mfg.Tol. -Toll. Thick. Thick. Required Item Thick. CR CR Life mm/yy mm mm mm mm/yr mm/yr mm mm mm yr 01/1987 11/2012 50.01 0.0229 12.70 1.58 11.12 12.70 N/A 12.10 0.0000 21.44 NO 12.70 50.02 1.58 11.12 12.70 13.00 0.0000 0.0000 100.00 NO N/A 50.03 12.70 12.70 0.0000 100.00 1.58 11.12 N/A 14.60 0.0000 NO 12.70 12.70 13.20 50.04 1.58 11.12 N/A 0.0000 0.0000 100.00 NO

TML No.: 55 6"NOZ NWSE 150#

DATE BUILT: 01/1987 AVERAGE THICKNESS MEASURED: 11.28 mm. MINIMUM THICKNESS MEASURED: 11.00 mm. MATERIAL:

| Pts. | Nom. Thick. mm | CA + Steel Mfg.Tol. mm | Nom. -CA -Toll. mm | B/L Survey Thick. mm | Prev. Survey Thick. mm | Last Survey Thick. mm | Short Term CR mm/yr | Long Term CR mm/yr | Rem. Half Life yr | Future UT Reading mm/yy | Action/Caution Required Item | |
|-------|----------------------|---------------------------------|-----------------------------|-------------------------------|---------------------------------|--------------------------------|------------------------------|-----------------------------|----------------------------|-------------------------------|---------------------------------|---|
| | | | | 01/1987 | | 11/2012 | | | | | | |
| 55.01 | 10.97 | 1.58 | 9.39 | 10.97 | N/A | 11.60 | 0.0000 | 0.0000 | 100.00 | | NO | , |
| 55.02 | 10.97 | 1.58 | 9.39 | 10.97 | N/A | 11.10 | 0.0000 | 0.0000 | 100.00 | | NO | * |
| 55.03 | 10.97 | 1.58 | 9.39 | 10.97 | N/A | 11.00 | 0.0000 | 0.0000 | 100.00 | | NO | * |
| 55.04 | 10.97 | 1.58 | 9.39 | 10.97 | N/A | 11.40 | 0.0000 | 0.0000 | 100.00 | | NO | |

If Baseline (B/L) Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness. Minimum Thickness is calculated

Design Minimum Thickness = Nom. Thick. - CA - Manufacturing Steel Tolerance.

Manufacturing Tolerance of pipe and forged fittings is + or -12.5% (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

Manufacturing Tolerance of plate is + or - 0.25mm (0.010") (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

(*) and GREEN Represent 25% of the last thickness readings, which have the shortest remaining half life.

BLUE (Caution TML Point) - if Corrosion Rate exceed a 0.250mm / 0.009 in. per yr. or Half Life is less than 15 years.

RED (Action TML Point) - If Remaining Half Life is 0 and Last Survey Thickness is below Nominal-CA-Tolerance Thickness.



Unit: S-002

FACILITY: LEO/GOUGH LAKE GAS PLANT MANUFACTURER: WESTERN ROCK LSD: 100/11-20-035-17W4M DESIGN PRESSURE: 1724 kPa / 250 psi ITEM DESC.: PROPANE BULLET DESIGN TEMP.: 46 C / 115 F

EQUIP / OIP#: E23052 PROV. REG. #: A0138997

VESSEL CORROSION ALLOWANCE: 1.58 mm

Future LIT

SERIAL #: 28319A CRN.: F398.2

TOTAL CAUTION / ACTION TML: 0

Item # 032

Dte

Nom

TML No.: 60 3"NOZ NWSE 150#

DATE BUILT: 01/1987 AVERAGE THICKNESS MEASURED: 8.00 mm. MATERIAL: MINIMUM THICKNESS MEASURED: 7.70 mm.

Pts. Nom. CA +Nom. B/L Prev. Last Short Long Rem. Future UT Action/Caution Thick. Steel -CA Survey Survey Survey Term Term Half Reading Mfg.Tol. -Toll. Thick. Thick. Required Item Thick. CR CR Life mm/yy mm mm mm/yr mm/yr mm mm mm mm yr 01/1987 11/2012 60.01 7.62 1.58 6.04 7.62 N/A 8.10 0.00000.0000 100.00 NO 7.62 7.70 60.02 1.58 6.04 7.62 N/A 0.0000 0.0000 100.00 NO 60.03 7.62 6.04 7.62 8.00 0.0000 0.0000 100.00 1.58 N/A NO 8.20 60.04 7.62 1.58 6.04 7.62 N/A 0.0000 0.0000 100.00 NO

TML No.: 65 3"NOZ NWSE 150#

 $CA \perp$

Nom

DATE BUILT: 01/1987 AVERAGE THICKNESS MEASURED: 8.78 mm.
MATERIAL: MINIMUM THICKNESS MEASURED: 7.50 mm.

 \mathbf{R}/\mathbf{I}

| ris. | Thick. | Steel Mfg.Tol. | -CA -Toll. | Survey Thick. | Survey Thick. | Survey Thick. | Term CR mm/yr | Term CR mm/yr | Half Life yr | Reading mm/yy | Action/Caution Required Item | |
|-------|--------|-------------------|---------------|------------------|------------------|------------------|---------------------|---------------------|--------------------|---------------|---------------------------------|---|
| | | 111111 | 111111 | 01/1987 | IIIII | 11/2012 | IIIII/ yI | iiiiii yi | yı | | | |
| 65.01 | 7.62 | 1.58 | 6.04 | 7.62 | N/A | 9.70 | 0.0000 | 0.0000 | 100.00 | | NO | |
| 65.02 | 7.62 | 1.58 | 6.04 | 7.62 | N/A | 8.90 | 0.0000 | 0.0000 | 100.00 | | NO | |
| 65.03 | 7.62 | 1.58 | 6.04 | 7.62 | N/A | 7.50 | 0.0000 | 0.0051 | 100.00 | | NO | * |
| 65.04 | 7.62 | 1.58 | 6.04 | 7.62 | N/A | 9.00 | 0.0000 | 0.0000 | 100.00 | | NO | |

Short

Long

Rem

If Baseline (B/L) Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness. Minimum Thickness is calculated

Design Minimum Thickness = Nom. Thick. - CA - Manufacturing Steel Tolerance.

Manufacturing Tolerance of pipe and forged fittings is + or -12.5% (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

Manufacturing Tolerance of plate is + or - 0.25mm (0.010") (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

(*) and GREEN Represent 25% of the last thickness readings, which have the shortest remaining half life.

BLUE (Caution TML Point) - if Corrosion Rate exceed a 0.250mm / 0.009 in. per yr. or Half Life is less than 15 years.

 $RED \ (Action \ TML \ Point) - If \ Remaining \ Half \ Life is \ 0 \ and \ Last \ Survey \ Thickness \ is below \ Nominal-CA-Tolerance \ Thickness.$



Unit: S-002

FACILITY: LEO/GOUGH LAKE GAS PLANT MANUFACTURER: WESTERN ROCK LSD: 100/11-20-035-17W4M DESIGN PRESSURE: 1724 kPa / 250 psi ITEM DESC.: PROPANE BULLET DESIGN TEMP.: 46 C / 115 F

EQUIP / OIP#: E23052 PROV. REG. #: A0138997

VESSEL CORROSION ALLOWANCE: 1.58 mm

11.20 mm.

SERIAL #: 28319A CRN.: F398.2

F398.2 TOTAL CAUTION / ACTION TML: 0

Item # 032

DATE BUILT:

TML No.: 70 6"NOZ NWSE 150#

MATERIAL: MINIMUM THICKNESS MEASURED: 11.00 mm. Pts. Nom. CA +Nom. B/L Prev. Last Short Long Rem. Future UT Action/Caution Thick. Steel -CA Survey Survey Survey Term Term Half Reading Thick. Mfg.Tol. -Toll. CR Life Required Item mm Thick. Thick. CR mm/yy mm mm/yr mm mm mm mm mm/yr yr

AVERAGE THICKNESS MEASURED:

| | | | | 01/1987 | | 11/2012 | | | | | |
|-------|-------|------|------|---------|-----|---------|--------|--------|--------|----|---|
| 70.01 | 10.97 | 1.58 | 9.39 | 10.97 | N/A | 11.00 | 0.0000 | 0.0000 | 100.00 | NO | * |
| 70.02 | 10.97 | 1.58 | 9.39 | 10.97 | N/A | 11.80 | 0.0000 | 0.0000 | 100.00 | NO | |
| 70.03 | 10.97 | 1.58 | 9.39 | 10.97 | N/A | 11.00 | 0.0000 | 0.0000 | 100.00 | NO | * |
| 70.04 | 10.97 | 1.58 | 9.39 | 10.97 | N/A | 11.00 | 0.0000 | 0.0000 | 100.00 | NO | * |

If Baseline (B/L) Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness. Minimum Thickness is calculated

 $Design\ Minimum\ Thickness = Nom.\ Thick.\ -\ CA\ -\ Manufacturing\ Steel\ Tolerance.$

Manufacturing Tolerance of pipe and forged fittings is + or -12.5% (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

Manufacturing Tolerance of plate is + or - 0.25mm (0.010") (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

(*) and GREEN Represent 25% of the last thickness readings, which have the shortest remaining half life.

BLUE (Caution TML Point) - if Corrosion Rate exceed a 0.250mm / 0.009 in. per yr. or Half Life is less than 15 years.

RED (Action TML Point) - If Remaining Half Life is 0 and Last Survey Thickness is below Nominal-CA-Tolerance Thickness.