

**Waukesha****DRESSER**
 MAIL TO: WAUKESHA ENGINE DIVISION  
 Dresser Industries, Inc.  
 1000 West St. Paul Avenue  
 Waukesha, Wisconsin 53188-4999  
 Attn: Warranty Department

ESL# 94146

**\*\*REMANUFACTURED\*\*****Start-Up Report**

SOLD BY: <u>E.S.L.</u> ADDRESS: <u>CALGARY, ALBERTA</u> OWNER: <u>CONOCO CANADA</u> ADDRESS: <u>EDSON, ALBERTA</u> ENGINE LOC.: <u>EDSON</u> <u>06-13-17-48 W5M</u> FABRICATED BY: <u>E.S.L.</u>	ENGINE MODEL: <u>F3521 GU</u> S/N.: <u>291979</u> SPEC.: _____ COMPRESSION RATIO: _____ NAME & MODEL OF DRIVEN EQUIPMENT: <u>ARIEL JGH-2 S/N F10338</u> APPLICATION: <u>GAS GATHERING</u> DUTY CYCLE: <u>CONTINUOUS</u>	SERVICE REP.: <u>STEVE BUTTRAM</u> ORGANIZATION: <u>PAMCO</u> ADDRESS: <u>8235 WAGNER ROAD</u> <u>EDMONTON, ALBERTA</u> DATE OF START-UP: <u>APRIL 7/95</u> FAB.REP.PERFORMING START-UP: _____
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<b>LUBE OIL &amp; FILTER</b> BRAND: <u>ESSO GLX</u> API CLASS.: _____ VISCOSITY: <u>30</u> OIL CHANGE HOURS: <u>1500</u> ADVISE CUSTOMER OF W.E.D.'s RECOMMENDATIONS? <u>X</u>	<b>COOLING SYSTEM INFORMATION</b> TYPE: <u>50/50 GLYCOL</u> WATER HARDNESS: _____ TREATMENT USED: _____ MAINTAINED BY: <u>OPERATOR</u>	<b>FUEL INFORMATION</b> TYPE: <u>NATURAL GAS</u> OCTANE/CETANE: _____ BTU CONTENT (LHV): _____ FILTRATION TYPE: _____ % OF H <sub>2</sub> S OR HCL: _____
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<table border="1"> <tr> <td>0.000 "</td> <td>0. +002 "</td> <td>00015 "</td> </tr> <tr> <td>0.000 "</td> <td>0. 002 "</td> <td>0. 002 "</td> </tr> </table> FINAL CRANKCASE DEFLECTION (PRESTART)	0.000 "	0. +002 "	00015 "	0.000 "	0. 002 "	0. 002 "	<b>HOT ALIGNMENT</b> <u>000</u> " <u>000</u> " <u>011</u> " <u>001</u> " <b>(A)</b> <u>-002</u> " <u>-001</u> " <b>(P)</b> <u>-001</u> " <u>000</u> " <u>-002</u> " CRANK-SHAFT DISTANCE FROM CENTER OF SHAFT END TO THE ANGULAR PLAY DIAL INDICATOR _____ "	HEAD(S) RETORQUED TO: <u>650</u> FT. LBS. VALVES ADJUSTED TO: INT. <u>0</u> " EXH. <u>0</u> " HYD. LIFTER TO: <u>1/2</u> TURNS INJ. PUMP. STATIC TIMING: RB: _____ ° (BTDC) LB: _____ °
0.000 "	0. +002 "	00015 "						
0.000 "	0. 002 "	0. 002 "						

FUNCTION TEST NO LOAD OPERATION. ENGINE RAN FOR 40 MINUTES.

RPM			IGN. TIMING @	INT. MFLD.	GAS OVER	SAFETY TRIP POINTS					CHECKED OILING	
IDLE	HI IDLE	GOV.	GOV. RPM BTDC	VAC. AT IDLE	AIR RATIO	HI WATER	LOW OIL	O.S. GOV.	INT. MFLD.	FUEL SHUTOFF	ROCKER ARMS	TURBO.
650	1200		RB: <u>24</u> °	<u>17</u> "Hg	<u>4 1/2</u> "H <sub>2</sub> O	<u>205</u> °F	<u>25</u> PSI	<u>1250</u> RPM				
			LB: _____									

FUNCTION TEST LOADED OPERATION. ENGINE RAN FOR 2 HOURS.

RPM	WATER OUT TEMP.	OIL TEMP.	OIL PRESS.	C. CASE PRESS.	EXH. BACK PRESS.	LOAD	IGN. TIMING @	INT. MFLD.	EXHAUST TEMP.	RACK EXT.	FUEL PRESS. @ REG. IN.	GAS OVER AIR RATIO
1100	<u>180</u> °F	<u>160</u> °F	<u>58</u> PSI	<u>1/2</u> "H <sub>2</sub> O	"H <sub>2</sub> O	BHP	RB: <u>24</u> °	<u>6</u> "Hg			PSI	<u>4 1/2</u> "H <sub>2</sub> O
						KW	LB: _____	"Hg			PSI	"H <sub>2</sub> O

FOR "GL" ENGINES COMPLETE REVERSE SIDE ALSO.

NOTE ANY OIL OR WATER LEAKS and any discrepancies which should be corrected. Explain any support systems such as fuel, cooling, air induction, exhaust, or general installation features which may be detrimental to engine performance or service life.

REMARKS: \_\_\_\_\_

 DISCUSSED WARRANTY? X DISCUSSED SPARE PARTS STOCK? X ADVISED CUSTOMER WHERE TO OBTAIN PARTS AND SERVICE? X  
 SUPPLIED OPERATION AND SERVICE MANUAL? X DISCUSSED OPERATION AND MAINTENANCE WITH CUSTOMER/OPERATOR? X
**STEVE BUTTRAM**
 \_\_\_\_\_  
 CUSTOMER'S SIGNATURE (Required)  
 (Indicating Start-Up Performance to His Satisfaction)

 \_\_\_\_\_  
 SERVICEMAN'S SIGNATURE

 \_\_\_\_\_  
 CERTIFIED SERVICEMAN'S SIGNATURE
EXPLANATION OF ABBREVIATIONS: "HG (Inches of Mercury), "H<sub>2</sub>O (Inches of Water), °F (Degree Fahrenheit), R.B. (Right Bank), L.B. (Left Bank), RPM (Engine Crankshaft RPM), PSI (Pounds Per Square Inch), O.S. (Over Speed). A= Angular P=Parallel

## 1500HR SERVICE. MAY 10/95

- SET ENGINE VALVES
- CHANGED OIL + FILTERS
- CHANGED SPARK PLUGS
- CHECKED TIMING
- CHECKED BELTS + BEARINGS
- CHECKED AIR FILTER
- BORESCOPE #2 CYL. (THIS CYLINDER HAS ABOUT ONE TABLE SPOON OF OIL IN THE CHAMBER AFTER SHUT DOWN).
- CHECK COMPRESSION

#1 210 PSI

#2 215 PSI

#3 220 PSI

#4 215 PSI

#5 210 PSI

#6. 212 PSI.

Equip. #	Description	Location	W.O. #	Date Completed	Parts Used	Comments
PEF-409A	9000HR Compressor P.M.	Peco Field 06-13-49-16W5	9703161	08/07/02		-All tasks were completed.

To: Ariel - Mount Vernon  
 From: PAMCO EDMONTON



Date: APRIL 7/95

Phone: 614-397-0311  
 FAX: 614-397-3856

## COMPRESSOR WARRANTY NOTIFICATION AND INSTALLATION LIST DATA

Coverage Under ARIEL'S Warranty Policy Is Based Upon  
Receipt Of Notification And Complete Information.

- Direct Sale
- Lease-Purchase
- Rental/Lease Unit

### Fabricator

Company E.S.L.  
 Address CALGARY, ALBERTA  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Fabricator Unit No. 94146

### Customer

Company CONOCO CANADA  
EDSON, ALBERTA  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

### Documentation and Accessories

Are The Following Included in Unit Shipment?

- |                                       |   |                             |
|---------------------------------------|---|-----------------------------|
| 1. Operator's manual                  | <input checked="" type="checkbox"/> yes | <input type="checkbox"/> no |
| 2. Unit spare parts list              | <input checked="" type="checkbox"/> yes | <input type="checkbox"/> no |
| 3. Recommended spare parts list       | <input checked="" type="checkbox"/> yes | <input type="checkbox"/> no |
| 4. Start-up check list                | <input checked="" type="checkbox"/> yes | <input type="checkbox"/> no |
| 5. Special tools and spare oil filter | <input checked="" type="checkbox"/> yes | <input type="checkbox"/> no |

### Compressor Frame

Frame Model JGH-2  
 Frame Serial No. F10338  
 Package Shipment Date \_\_\_\_\_  
 Package Start-Up Date APRIL 7/95

### Unit Location

Unit Designation \_\_\_\_\_  
 Closest Town EDSON, ALBERTA  
 Country \_\_\_\_\_ State \_\_\_\_\_  
 Offshore Yes  No   
 Directions to location \_\_\_\_\_  
06-13-17-48 W5M  
 Contact Person \_\_\_\_\_  
 Contact Phone \_\_\_\_\_  
 OK to Contact: Yes  No

### Prime Mover

Applied RPM 1200  
 Manufacturer WAUKESHA  
 Model F3521 GU S/N 291979  
 Applied Horsepower \_\_\_\_\_  
 Coupling Mfg. & Model \_\_\_\_\_

### Operating Conditions

Compressor Application: GATHERING  
 (Gathering, Injection, Recycle, Booster, etc)  
 Gas Compressed NG  
 (NG, CO<sub>2</sub>, N<sub>2</sub>, Air, etc)

Specific Gravity \_\_\_\_\_ Capacity \_\_\_\_\_ MMSCFD  
 Elevation \_\_\_\_\_ ft. 'N' value \_\_\_\_\_  
 Non-lubed Cyl's: Yes  No  H<sub>2</sub>S \_\_\_\_\_ % CO<sub>2</sub> \_\_\_\_\_ %  
 \_\_\_\_\_ Operation Hrs. as of \_\_\_\_\_  
 \* Photos: Yes  No

### Compressor Cylinders

**Cyl. Type	Stage Number	Throw Number	Serial Number	Diameter Inches	Inlet		Discharge	
					deg F	PSIG	deg F	PSIG
	1	2	C28217	9 1/4	40	291	125	487
	2	1	C28218	5 1/2	85		200	1018

\* Place card on unit showing frame serial number in approx. 6" letters. Capture entire package in photo.  
 \*\* Examples: If cyl. is a 4-5/8 H tandem - Then type is "HT"; If cyl. is a 4-5/8 H tandem, HI-Press - Then type is "HT-HP"

EQUIP. #	DESC.	LOCATION	W.O. #	DATE COMPLETED	PARTS USED	COMMENTS
PEF-409A	27000HR Cylinder P.M.	6-13-49-16W5	9702655	05/22/01		<ul style="list-style-type: none"> <li>▪ Tasks were completed at the same time as 9702652.</li> </ul>
	9000HR Compressor P.M.		9702652	05/22/01		<ul style="list-style-type: none"> <li>▪ Replaced main and conn rod bearings.</li> <li>▪ Checked all cross head pin and bushing clearances. All under .0035"</li> <li>▪ Crankshaft end float .012"</li> </ul>
			9702112	9/08/00		<ul style="list-style-type: none"> <li>• All tasks were completed except did not check and test all safety shut down devices.</li> <li>• Switched to Conoco Hydro Clear oil.</li> </ul>
			9701823	1/5/2000		<ul style="list-style-type: none"> <li>• All tasks were completed.</li> </ul>
			9700987	6/17/98		<ul style="list-style-type: none"> <li>▪ Valves switched to thermo plastic, rings replaced, rod coated T.C. by Compressor Components.</li> <li>▪ All tasks were completed.</li> </ul>
			9700526	7/05/97		<ul style="list-style-type: none"> <li>• Matt requested this P.M. be changed to a 27000HR schedule.</li> </ul>
			9600173	8/04/96		<ul style="list-style-type: none"> <li>• All tasks were completed.</li> </ul>

# COMPRESSOR REPORT & CLEARANCE RECORD



# COMPRESSOR PERFORMANCE

CUSTOMER: Canaco UNIT #: 94146  
 MAKE: Ariel START UP WO: # 56424  
 FRAME SERIAL: F-10338 MODEL: SGH-2 START UP DATE: April 7/95  
 ORDER BG #: \_\_\_\_\_ SERVICEMAN: Steve Buttram  
 OIL: Esso GLX 30 UNIT LOCATION: \_\_\_\_\_

.001 (A) .002 .005 (P) .005  
 .000  
 Coupling Alignment  
 .010

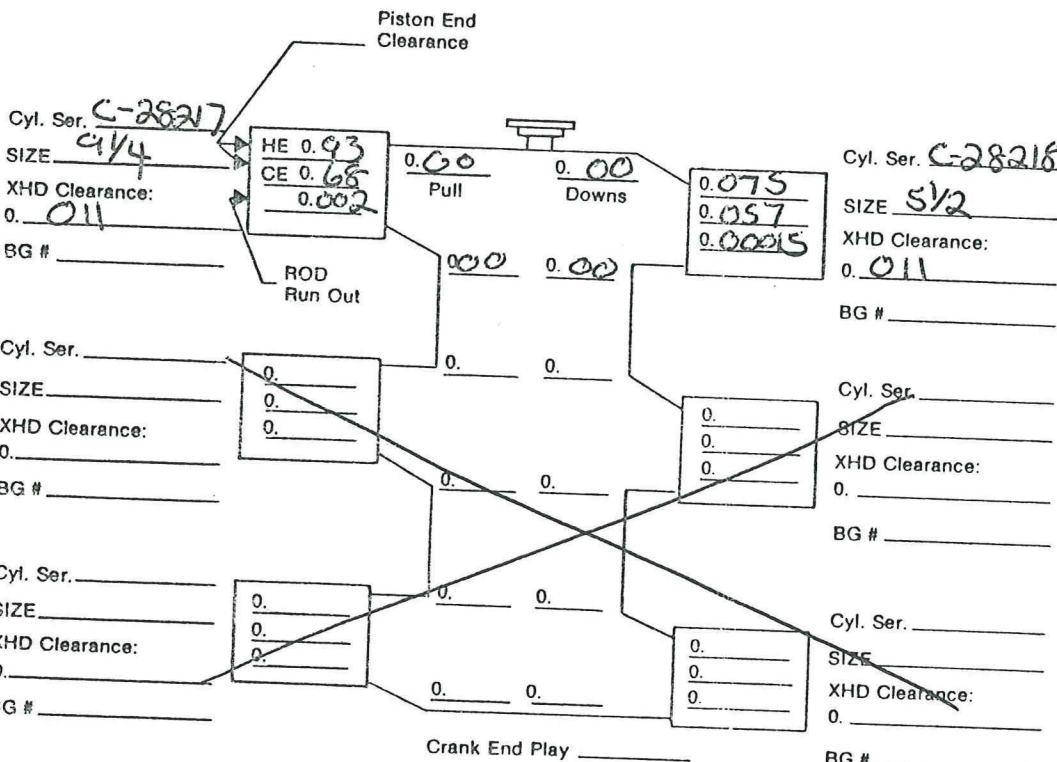
## Gas Temperature and Pressure

### SUCTION

#1 291 PSI AT 40°F  
 #2 \_\_\_\_\_ PSI AT 85°F  
 #3 \_\_\_\_\_ PSI AT \_\_\_\_\_  
 #4 \_\_\_\_\_ PSI AT \_\_\_\_\_  
 #5 \_\_\_\_\_ PSI AT \_\_\_\_\_  
 #6 \_\_\_\_\_ PSI AT \_\_\_\_\_

### DISCHARGE

#1 487 PSI AT 125°F  
 #2 1018 PSI AT 200°F  
 #3 \_\_\_\_\_ PSI AT \_\_\_\_\_  
 #4 \_\_\_\_\_ PSI AT \_\_\_\_\_  
 #5 \_\_\_\_\_ PSI AT \_\_\_\_\_  
 #6 \_\_\_\_\_ PSI AT \_\_\_\_\_



### CRANKCASE OIL

BRAND Esso GLX  
 GRADE \_\_\_\_\_  
 VISCOSITY 30  
 OIL PRESSURE 60 PSI  
 OIL TEMPERATURE INTO CRANKCASE 125°F  
 OIL TEMPERATURE OUT OF CRANKCASE 132°F

### LUBRICATOR OIL

BRAND \_\_\_\_\_  
 GRADE \_\_\_\_\_  
 VISCOSITY \_\_\_\_\_  
 DROPS PER MINUTE \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Cross Head Wts.	SUCTION VALVES:	DISCHARGE:
#1 _____	#1 _____	#1 _____
#2 _____	#2 _____	#2 _____
#3 _____	#3 _____	#3 _____
#4 _____	#4 _____	#4 _____
#5 _____	#5 _____	#5 _____
#6 _____	#6 _____	#6 _____

NOTE: Indicate if split yokes are installed e.g. S/Y IN or S/Y OUT



DATE \_\_\_\_\_

BY \_\_\_\_\_

PAGE \_\_\_\_\_

6-13 COMP JUNE 17/98

- REPLACED ALL CONN ROD ~~BRGS~~ BRGS.

- REPLACED ALL MAIN BRGS

CONN ROD SIDE CL. #1 .013"

#2 .011"

CRANKSHAFT END FLOAT .011"

37  
36  
35  
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2

EQUIP. #	DESC.	LOCATION	W.O. #	DATE COMPLETED	PARTS USED	COMMENTS
PEF-409A	9000HR Compressor P.M.	6-13-49-16W5	9700987	6/17/98		<ul style="list-style-type: none"> <li>▪ Valves switched to thermo plastic, rings replaced, rod coated T.C. by Compressor Components.</li> <li>▪ All tasks were completed.</li> </ul>
			9700526	7/05/97		<ul style="list-style-type: none"> <li>• Matt requested this P.M. be changed to a 27000HR schedule.</li> </ul>
			9600173	8/04/96		<ul style="list-style-type: none"> <li>• All tasks were completed.</li> </ul>

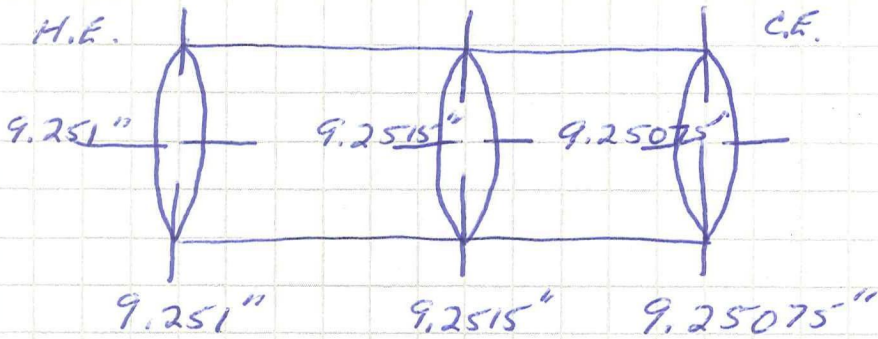


EQUIP. #	DESC.	LOCATION	W.O. #	DATE COMPLETED	PARTS USED	COMMENTS
PEF-409B	9000HR Compressor P.M.	6-13-49-16W5	9702656	05/22/01		<ul style="list-style-type: none"> <li>• Cylinder inside dia. 9.252"-9.2505"</li> <li>• Replaced all compressor valves (Hoerbigger)</li> <li>• Replaced all rod packing (Dover)</li> <li>• Replaced piston rings (Compressor Components)</li> <li>• Polished rods</li> <li>• Piston bump CL. .061" HE .124"</li> <li>• Crosshead clearance .011"</li> <li>• Rod runout &amp; .0005"</li> <li>• All pin and bushing CL. Were on spec.</li> </ul>
			9700988	6/17/98		<ul style="list-style-type: none"> <li>▪ All tasks were completed.</li> <li>▪ Check measurements recorded in history files.</li> </ul>
			9700524	7/05/97		<ul style="list-style-type: none"> <li>• Matt requested this P.M. be changed to a 27000HR schedule.</li> </ul>

6-13 COMP

JUNE 17/98

#2 CYL 1ST STAGE



CROSSHEAD

CROSSHEAD TO GUIDE .012"

CROSSHEAD PIN DIA 4.4985"

CROSSHEAD PIN BORE DIA. FRONT 4.5015"  
BACK 4.50175"

CONN ROD BUSH. DIA.  $\downarrow$  4.502  
 $\leftarrow$  4.502

PISTON AND ROD SENT TO COMPRESSOR COMPONENTS

- ROD WAS RECOATED IN TUNGSTON CARBIDE

- PISTON BUMP C.E. .057"

H.E. .098"

ROD RUNOUT +.0015"