

Module Setup 1159 - Maxhamish d-36-I 3612			
Detection Number	1159	Asset Name	Maxhamish d-36-I 3612
Client Asset #	1159	Asset Location	d-36-I/94-O-14
Asset Type	Recip	Recipient Location	
Latitude	59.948097	Elevation - fasl	1455
Longitude	-123.070328	Time Zone	Canada/Pacific
Area	British Columbia1	Field	Maxhamish1
Foreman	Tom Keetley		
Operator		Province/State	British Columbia
Packager Name	Energy Industries	Package Serial #	
Package Manufacturer Date			
Noise Suppression Installed		Asset Sound Level (dB)	0
Noise Suppression Description			
Cost Center Code	FAC000659		
Eub License Num		Environmental Registration #	
Asset Properties			
Gas Working Interest %	100	Gas Pricing - \$/mscf	2
Skid Type	Housed	Electricity Pricing - \$/kWh	0.1
Field Limitation	Yes	Sour Service	Yes
Ownership Status	Owned	Asset Application	Gathering
Disable HP Savings CFR Due To Bypass	No	Vibration Planes	1
Setup Date	7/28/2009	Setup Fee	Setup Fee # 1
		Enalysis Fee	Enalysis Fee # 1
Active Status	Active	Using Maintenance	No
Stand-by	Yes	Using SCADA	Yes
Remote Asset ID	1159		

## Gas Analysis 1159 - Maxhamish d-36-I 3612

Stream Name	Inlet	Fuel
Stream Type	Inlet Stream	Fuel Gas
Sample Date	03/15/2010	03/15/2010
Hydrogen	0.0001	0.0001
Helium	0.0004	0.0004
Nitrogen	0.0111	0.0122
Carbon Dioxide	0.1303	0.0480
Hydrogen Sulfide	0.0001	0.0000
Methane	0.8567	0.9388
Ethane	0.0009	0.0005
Propane	0.0002	0.0000
ISO Butane	0.0001	0.0000
Normal Butane	0.0001	0.0000
ISO Pentane	0.0000	0.0000
Normal Pentane	0.0000	0.0000
Hexane	0.0000	0.0000
Heptane	0.0000	0.0000
Octane	0.0000	0.0000
Oxygen	0.0000	0.0000
Ammonia	0.0000	0.0000
Water	0.0000	0.0000
Pseudo Critical Temperature Adjustment	14.72	6.87
Specific Gravity	0.685	0.605
Dehydrated Gas	Yes	Yes
Temperature Base - °F	60	60
Pressure Base - psia	14.696	14.696

Driver Setup 1159 - Maxhamish d-36-I 3612			
Manufacturer	Caterpillar	Model	G3612TALE
Serial Number	1YG00182	Asset Tracking Number	
Driver Type	Turbo	Engine Manufacturer Date	
Engine Configuration	V	Number of Cylinders	12
Compression Ratio	9.2		
Rated rpm	1000	Min rpm	730
Max Horsepower @Sea Level	3335	Max Derated Horsepower	3335
Min Horsepower @Sea Level	2480	Min Derated Horsepower	2480
Fuel Requirements - Btu/hphr	6810	Inlet Stream LHV - Btu/ft <sup>3</sup>	854.58
Engine Timing - BTDC °	18.3	Air / Fuel Ratio	8.95
Max Boost - psig	19.96	Max Engine Exhaust Temp - °F	851
Exhaust Flow - cfm	22218	Exhaust O2 %	12.3
Max Engine NOx - g/bhp-hr	0.7	Max Engine CO - g/bhp-hr	2.5
Max Engine CO2 - g/bhp-hr	486	Overall Exhaust dB @ 1.5m	132.1
Water Pump - hp	66.7	Other Auxiliary Draw - hp	0
Max Top End Overhaul Hours	999999	Max BTM End Overhaul Hours	999999
Max Oil Change Hours	999999	Ambient Operating Temp - °F	60
Gear Ratio	1	Compressor rpm @ Rated Driver rpm	1000
Intake Valve Recession Limit	0.09	Exhaust Valve Recession Limit	0.09
Valves per Cylinder	2	Stroke Type	
Burn Type		Burn Type Effective Date	
Engine Muffler Make		Engine Muffler Model	
Engine Muffler Serial Number		Engine Coolant Type	
Catalytic Converter Installed	N/A		
Catalytic Converter Make		Catalytic Converter Model	
Catalytic Converter Serial Number		Element Installed	

Engine Flags Setup 1159 - Maxhamish d-36-I 3612									
Pressure - psig	High	High	Low	Low	Temperature - °F	High	High	Low	Low
Oil Header	95	84	37	30	Oil Header	220	210	170	140
Jacket	8	7	4	3	Jacket	210	200	180	150
Fuel Gas	47	46	2	1.5	Fuel Gas	140	120	70	50
Intercooler	8	7	4	3	Intercooler	170	161	94	77
Intake Manifold	76	75	26.4	13	Intake Manifold	167	155	82	60
					Exhaust Manifold	1238	1225	628	565
					Aux. Water	135	130	117	100
					Cylinder Deviation	75			

Frame Setup 1159 - Maxhamish d-36-I 3612

Manufacturer	Energy Industries	Model	F704
Serial Number	65F706A	Asset Tracking Number	
Manufacturer Date Frame		Stroke - inches	7
Number of Throws	4	Number of Stages	2
Unloader Type	None		
Rod Load Type	Internal		
Max Compression - lbs	60000	Max Tension - lbs	60000
Total Max Rod Load - lbs	110000		
Dynamic Max Compression - lbs	60000	Dynamic Max Tension - lbs	50000
Max Overhaul Hours	999999	Max Horsepower	4800
Rated rpm	1000	Min rpm	600

Cylinder Setup 1159 - Maxhamish d-36-I 3612				
Stage	1	1	2	2
Throw	1	3	2	4
Cylinder Model	95	95	89	89
Dummy Cylinder	No	No	No	No
Cylinder Serial #	HSR003961-1	HSR003961-2	89C4187	89C4188A
Cylinder MAWP - psig	1250	1250	2200	2200
Lube Status	Lube	Lube	Lube	Lube
Cylinder Action	DA	DA	DA	DA
Cylinder Diameter - inches	11	11	7	7
Rod Diameter - inches	2.5	2.5	2.5	2.5
Tail Rod Diameter - inches	0	0	0	0
Associated Gas Stream	Inlet	Inlet	Inlet	Inlet
Orifice Data				
Suct. Internal Pipe Diam. - inches	0	0	0	0
Suct. Orifice Diam. - inches	0	0	0	0
Disc. Internal Pipe Diam. - inches	0	0	0	0
Disc. Orifice Diam. - inches	0	0	0	0

Cylinder Heating/Cooling Factor 1159 - Maxhamish d-36-I 3612				
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Heating/Cooling Factor - %	0	0	0	0
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Cylinder Blowby Thresholds 1159 - Maxhamish d-36-I 3612				
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SA Severe Threshold - %	20	20	20	20
SA Warning Threshold - %	12	12	12	12
DA Severe Threshold - %	15	15	15	15
DA Warning Threshold - %	7	7	7	7
Deviation Severe Threshold - %	1000	1000	1000	1000
Deviation Warning Threshold - %	10	10	10	10

Valve Setup 1159 - Maxhamish d-36-I 3612				
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Stage	1	1	2	2
Throw	1	3	2	4
HE Suction Valve Resist VHDS	6.66	6.66	6.66	6.66
HE Suction Valve Quantity	2	2	2	2
HE Suction Valve Lift - inches	0.08	0.08	0.08	0.08
HE Suction Valve Area - sq. in .	7.59	7.59	2.4	2.4
HE Discharge Valve Resist VHDS	6.66	6.66	6.66	6.66
HE Discharge Valve Quantity	2	2	2	2
HE Discharge Valve Lift - inches	0.08	0.08	0.08	0.08
HE Discharge Valve Area - sq. in .	7.59	7.59	2.4	2.4
CE Suction Valve Resist VHDS	6.66	6.66	6.66	6.66
CE Suction Valve Quantity	2	2	2	2
CE Suction Valve Lift - inches	0.08	0.08	0.08	0.08
CE Suction Valve Area - sq. in.	7.59	7.59	2.4	2.4
CE Discharge Valve Resist VHDS	6.66	6.66	6.66	6.66
CE Discharge Valve Quantity	2	2	2	2
CE Discharge Valve Lift - inches	0.08	0.08	0.08	0.08
CE Discharge Valve Area - sq. in .	7.59	7.59	2.4	2.4
Suction Valve Manufacturer				
Suction Valve Model				
Suction Valve Type				
Discharge Valve Manufacturer				

Discharge Valve Model						
Discharge Valve Type						

Clearance Setup 1159 - Maxhamish d-36-I 3612					
Stage	1	1	2	2	
Throw	1	3	2	4	
HE Clearance Min - %	13.84	13.84	12.36	12.36	
HE Clearance Max - %	106.39	106.39	77.92	77.92	
Max Pocket Travel - inches	16	16	16.01	16.01	
HE Spacers Max Quantity	0	0	0	0	
HE Clearance per Spacer - %	0	0	0	0	
CE Clearance Min - %	13.04	13.04	12.07	12.07	
CE Clearance Max - %	13.04	13.04	12.07	12.04	
CE Spacers Max Quantity	0	0	0	0	
CE Clearance per Spacer - %	0	0	0	0	

Reciprocating Setup 1159 - Maxhamish d-36-I 3612					
Stage	1	1	2	2	
Throw	1	3	2	4	
Con. Rod Length - inches	18	18	18	18	
1/3 Con Rod Weights - lbs.	0	0	0	0	
Crosshead Pin Weight - lbs.	0	0	0	0	
Piston Weight - lbs.	132.5	132.5	105	105	
Rod Weight - lbs.	0	0	0	0	
Crosshead Weight - lbs.	115.9	115.9	115.9	115.9	
Balance Weight Added - lbs.	0	0	27.5	27.5	
Total Weight - lbs.	248.4	248.4	248.4	248.4	

**Aerial Cooler Setup 1159 - Maxhamish d-36-I 3612**

Manufacturer	ACE Air Cooled Exchangers, LLC	Model	HF42-140
Serial Number	99C466A	Horsepower Draw	133.4
Coolant Type		Rated RPM	
Blade RPM		Blade Diameter	
Electricity Draw			

Stage	1	2				
Design Pressure MAWP - psig	1250.99	1900.99				
Required Temperature Out - °F	120	120				
Estimated Pressure Drop - psig	5	5				
Max Design Temperature - °F	299.99	299.99				
# of Passes/Section						
# of Tubes/Section						
# of Rows						
Tube O.D. - inches						
Tube Gauge						
Tube I.D. - inches						
Length of Tubes - feet						
Tube Material - feet						
Corrosion Allowance - inches						
Fouling Factor						
Ambient Air Design Temp - °F						

**Design Conditions Setup 1159 - Maxhamish d-36-I 3612**

Stage	1	2				
PSV Setting - psig	1250	1900				
Max Discharge Valve Temp - °F	299.99	299.99				
Piping/Bottles Max Temp - °F	350	300				
Discharge Piping/Bottles MAWP - psig						

**Reporting Compliance 1159 - Maxhamish d-36-I 3612**

Set Expected Interval	No
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Links to related asset modules.



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