

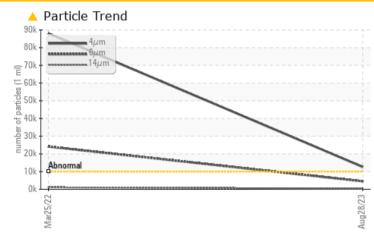
# **PROBLEM SUMMARY**

#### Area COMPRESSOR STATIONS/CONAN AREA Machine Id ENDURANCE (S/N AS3190235) Component

Compressor

TULCO LUBSOIL LPG WS 150 (--- GAL)

## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status		ABNORMAL ABNOR	MAL
Particles >4µm	ASTM D7647 >1000	0 🔺 12603 🔺 8805	2
Particles >6µm	ASTM D7647 >1300	<b>▲ 4494</b> ▲ 2410	4
Particles >14µm	ASTM D7647 >320	<b>▲ 327</b> ▲ 1114	
Oil Cleanliness	ISO 4406 (c) >20/17	7/15 🔺 21/19/16 🛛 🔺 24/22	2/17

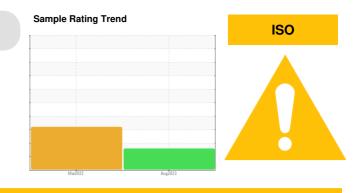
Customer Id: EOGMID Sample No.: TO60001229 Lab Number: 05937893 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Don Baldridge +1 don.b505@comcast.net

*To change component or sample information:* Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u>



RECOMMENDED AC	CTIONS			
Action	Status	Date	Done By	Description
Change Filter			?	We recommend you service the filters on this component.

## HISTORICAL DIAGNOSIS

## 25 Mar 2022 Diag: Jonathan Hester





We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. There is a light concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.





## **OIL ANALYSIS REPORT**

SAMPLE INFORMATION

Sample Number

Sample Date

#### Area COMPRESSOR STATIONS/CONAN AREA Machine Id ENDURANCE (S/N AS3190235) Component

Compressor

TULCO LUBSOIL LPG WS 150 (--- GAL)

## DIAGNOSIS

#### A Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

#### Contamination

There is a high amount of particulates present in the oil.

#### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



Oil Age     hrs     Client Info     N/A     Oil Added        Sample Status     I     Image     ABNORMAL     ABNORMAL     ABNORMAL        WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     9     4        Chromium     ppm     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     >50     9     4        Aluminum     ppm     ASTM D5185m     >50     0     <1        Silver     ppm     ASTM D5185m     >25     0     <1        Addminum     ppm     ASTM D5185m     >55     1     3        Cadmium     ppm     ASTM D5185m     >1     3        Addminum     ppm     ASTM D5185m     0     0        Addminum     ppm     ASTM D5185m     0     0 <t< th=""><th>Machine Age</th><th>hrs</th><th>Client Info</th><th></th><th>0</th><th>1</th><th></th></t<>	Machine Age	hrs	Client Info		0	1	
Sample Staus     Image     ABNORMAL     ABNORMAL     ABNORMAL     ···       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     9     4        Chromium     ppm     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     >20     0     1        Aluminum     ppm     ASTM D5185m     >25     3     <1        Aluminum     ppm     ASTM D5185m     >25     0     <1        Aluminum     ppm     ASTM D5185m     >25     0     <1        Agendeitum     ppm     ASTM D5185m     >50     0     <1        Agendeitum     ppm     ASTM D5185m     0     0     <1        Agendeitum     ppm     ASTM D5185m     0     0     <1        Agendeitum     ppm     ASTM D5185m     0	Oil Age	hrs	Client Info		0	15530	
WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     9     4        Chromium     ppm     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     <1         Silver     ppm     ASTM D5185m     0     <1        Aluminum     ppm     ASTM D5185m     >25     3     <1        Copper     ppm     ASTM D5185m     >50     0     <1        Cadmium     ppm     ASTM D5185m     >50     0     <1        ADDITIVES     method     limit/base     current     history1     history2       Barium     ppm     ASTM D5185m     0     0     0	Oil Changed		Client Info		N/A	Oil Added	
Iron     ppm     ASTM D5185m     >50     9     4        Nickel     ppm     ASTM D5185m     0     0        Nickel     ppm     ASTM D5185m     0     0        Silver     ppm     ASTM D5185m     0     <1        Aluminum     ppm     ASTM D5185m     >25     3     <1        Lead     ppm     ASTM D5185m     >25     0     <1        Copper     ppm     ASTM D5185m     >25     0     <1        Vanadium     ppm     ASTM D5185m     >50     0     <1        Adaminum     ppm     ASTM D5185m     0     0     0        Adaminum     ppm     ASTM D5185m     0     0     0        Adaminum     ppm     ASTM D5185m     0     0         Adaminum     ppm     ASTM D5185m     0     1	Sample Status				ABNORMAL	ABNORMAL	
Dromium     ppm     ASTM D5185m     >10     0     0	WEAR METALS		method	limit/base	current	history1	history2
Nickel     ppm     ASTM D5185m     <1     <1        Titanium     ppm     ASTM D5185m     0     0        Silver     ppm     ASTM D5185m     25     3     <1	Iron	ppm	ASTM D5185m	>50	9	4	
Titanium   ppm   ASTM D5185m   0	Chromium	ppm	ASTM D5185m	>10	0	0	
Silver   ppm   ASTM D5185m   0   <1	Nickel	ppm	ASTM D5185m		<1	<1	
Aluminum     ppm     ASTM D5185m     >25     3     <1        Lead     ppm     ASTM D5185m     >25     0     <1	Titanium	ppm	ASTM D5185m		0	0	
Lead     ppm     ASTM D5185m     >25     0     <1        Copper     ppm     ASTM D5185m     >50     0     <1	Silver	ppm	ASTM D5185m		0	<1	
Copper     ppm     ASTM D5185m     >50     0     <1        Tin     ppm     ASTM D5185m     >15     1     3        Vanadium     ppm     ASTM D5185m     0     0        Cadmium     ppm     ASTM D5185m     0     0        ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0         Magnaese     ppm     ASTM D5185m     0     0         Magnaese     ppm     ASTM D5185m     0     1         Magnesium     ppm     ASTM D5185m     0     105     288        Zinc     ppm     ASTM D5185m     0     1728     1977        Sulfur     ppm     ASTM D5185m     25     0     1        Sodium     ppm     ASTM D5185m     >20     2 <td>Aluminum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;25</td> <td>3</td> <td>&lt;1</td> <td></td>	Aluminum	ppm	ASTM D5185m	>25	3	<1	
Tin   ppm   ASTM D5185m   >15   1   3      Vanadium   ppm   ASTM D5185m   0   0      Cadmium   ppm   ASTM D5185m   0   0      ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM D5185m   0   0   0      Mappinese   ppm   ASTM D5185m   0   0   <-11      Magnese   ppm   ASTM D5185m   0   0   <-11      Magnesium   ppm   ASTM D5185m   0   0   0      Calcium   ppm   ASTM D5185m   0   105   288      Sulfur   ppm   ASTM D5185m   0   1728   1977	Lead	ppm	ASTM D5185m	>25	0	<1	
Vanadium     ppm     ASTM D5185m     0     0        Cadmium     ppm     ASTM D5185m     0     0        ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     2     4        Barium     ppm     ASTM D5185m     0     0     0        Marganese     ppm     ASTM D5185m     0     0         Magnesium     ppm     ASTM D5185m     0     1     <-1        Calcium     ppm     ASTM D5185m     0     105     288        Calcium     ppm     ASTM D5185m     0     105     288        Sulfur     ppm     ASTM D5185m     0     105     288        Sulfur     ppm     ASTM D5185m     0     1728     1977        Soliton     ppm     ASTM D5185m     >20     2     1 <th< td=""><td>Copper</td><td>ppm</td><td>ASTM D5185m</td><td>&gt;50</td><td>0</td><td>&lt;1</td><td></td></th<>	Copper	ppm	ASTM D5185m	>50	0	<1	
Cadmium     ppm     ASTM D5185m     0     0        ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     2     4        Barium     ppm     ASTM D5185m     0     0     0     0        Molybdenum     ppm     ASTM D5185m     0     0     <1        Magnese     ppm     ASTM D5185m     0     0     <1        Magnesium     ppm     ASTM D5185m     0     1     <1        Calcium     ppm     ASTM D5185m     0     105     288        Sulfur     ppm     ASTM D5185m     0     1728     1977        Solium     ppm     ASTM D5185m     20     1         Sulfur     ppm     ASTM D5185m     20     2     1        Sulfur     ppm     ASTM D5185m     20     2 <th< td=""><td>Tin</td><td>ppm</td><td>ASTM D5185m</td><td>&gt;15</td><td>1</td><td>3</td><td></td></th<>	Tin	ppm	ASTM D5185m	>15	1	3	
ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     2     4        Barium     ppm     ASTM D5185m     0     0     0        Molybdenum     ppm     ASTM D5185m     0     0     <1	Vanadium	ppm	ASTM D5185m		0	0	
Boron     ppm     ASTM D5185m     0     2     4        Barium     ppm     ASTM D5185m     0     0     0        Molybdenum     ppm     ASTM D5185m     0     0     <1	Cadmium	ppm	ASTM D5185m		0	0	
Barium     ppm     ASTM D5185m     0     0     0        Molybdenum     ppm     ASTM D5185m     0     0     <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum     ppm     ASTM D5185m     0 <th< td=""><td>Boron</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><td>2</td><td>4</td><td></td></th<>	Boron	ppm	ASTM D5185m	0	2	4	
Maganese   ppm   ASTM D5185m   0   1   <1      Magnesium   ppm   ASTM D5185m   0   1   <1	Barium	ppm	ASTM D5185m	0	0	0	
Magnesium   ppm   ASTM D5185m   0   1   <1      Calcium   ppm   ASTM D5185m   0   0   0      Phosphorus   ppm   ASTM D5185m   0   105   288      Zinc   ppm   ASTM D5185m   0   2   1      Sulfur   ppm   ASTM D5185m   0   1728   1977      CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   0   1      Sodium   ppm   ASTM D5185m   >20   2   <1	Molybdenum	ppm	ASTM D5185m	0	0	<1	
Calcium   ppm   ASTM D5185m   0   0   0      Phosphorus   ppm   ASTM D5185m   0   105   288      Zinc   ppm   ASTM D5185m   0   2   1      Sulfur   ppm   ASTM D5185m   0   1728   1977      CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   0   1      Sodium   ppm   ASTM D5185m   >20   2   <1	Manganese	ppm	ASTM D5185m		0	<1	
Phosphorus     ppm     ASTM D5185m     0     105     288        Zinc     ppm     ASTM D5185m     0     2     1        Sulfur     ppm     ASTM D5185m     0     1728     1977        CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     0     1        Sodium     ppm     ASTM D5185m     >25     0     1        Sodium     ppm     ASTM D5185m     >20     2     <1	Magnesium	ppm	ASTM D5185m	0	1	<1	
Zinc     ppm     ASTM D5185m     0     2     1        Sulfur     ppm     ASTM D5185m     0     1728     1977        CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     0     1        Sodium     ppm     ASTM D5185m     >20     2     <1	Calcium	ppm	ASTM D5185m	0	0	0	
Sulfur     ppm     ASTM D5185m     0     1728     1977        CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     0     1        Sodium     ppm     ASTM D5185m     >25     0     1        Sodium     ppm     ASTM D5185m     >20     2     <1        Potassium     ppm     ASTM D5185m     >20     2     <1        Water     %     ASTM D6304     >2.26     0.346     0.234        ppm Water     ppm     ASTM D6304     >2.2600     3467.9     2349.9        FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >10000     12603     88052        Particles >6µm     ASTM D7647     >320     327     1114        Particles >1µm     ASTM D7647     >80	Phosphorus	ppm	ASTM D5185m	0	105	288	
CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     0     1        Sodium     ppm     ASTM D5185m     >20     2     <1	Zinc	ppm	ASTM D5185m	0	2	1	
Silicon   ppm   ASTM D5185m   >25   0   1      Sodium   ppm   ASTM D5185m   >20   7   1      Potassium   ppm   ASTM D5185m   >20   2   <1      Water   %   ASTM D5185m   >20   2   <1      Water   %   ASTM D6304   >2.26   0.346   0.234      ppm Water   ppm   ASTM D6304   >2.2600   3467.9   2349.9      FLUID CLEANLINESS   method   limit/base   current   history1   history2     Particles >4µm   ASTM D7647   >10000   12603   88052      Particles >6µm   ASTM D7647   >320   327   1114      Particles >14µm   ASTM D7647   >80   46   145      Particles >21µm   ASTM D7647   >20   2   7      Particles >38µm   ASTM D7647   >20   2   7      Particles >71µm   ASTM D7647   4   0   0	Sulfur	ppm	ASTM D5185m	0	1728	1977	
Sodium     ppm     ASTM D5185m     7     1        Potassium     ppm     ASTM D5185m     >20     2     <1        Water     %     ASTM D6304     >2.26     0.346     0.234        ppm Water     ppm     ASTM D6304     >22600     3467.9     2349.9        FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >10000     12603     88052        Particles >6µm     ASTM D7647     >1300     4494     24104        Particles >6µm     ASTM D7647     >320     327     1114        Particles >14µm     ASTM D7647     >80     46     145        Particles >21µm     ASTM D7647     >20     2     7        Particles >71µm     ASTM D7647     >4     0     0        OIl Cleanliness     ISO 4406 (c)     >20/17/15     21/19/16     24/22/17	CONTAMINANTS	3	method	limit/base	current	history1	history2
Potassium   ppm   ASTM D5185m   >20   2   <1	Silicon	ppm	ASTM D5185m	>25	0	1	
Water   %   ASTM D6304   >2.26   0.346   0.234      ppm Water   ppm   ASTM D6304   >22600   3467.9   2349.9      FLUID CLEANLINESS   method   limit/base   current   history1   history2     Particles >4µm   ASTM D7647   >10000   12603   88052      Particles >6µm   ASTM D7647   >1300   44944   24104      Particles >6µm   ASTM D7647   >320   327   1114      Particles >21µm   ASTM D7647   >80   46   145      Particles >38µm   ASTM D7647   >20   2   7      Particles >71µm   ASTM D7647   >4   0   0      Oil Cleanliness   ISO 4406 (c)   >20/17/15   21/19/16   24/22/17	Sodium	ppm	ASTM D5185m		7	1	
ppm Water     ppm     ASTM D6304     >22600     3467.9     ▲ 2349.9        FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >10000     ▲ 12603     ▲ 88052        Particles >6µm     ASTM D7647     >1300     ▲ 4494     ▲ 24104        Particles >14µm     ASTM D7647     >320     ▲ 327     ▲ 1114        Particles >21µm     ASTM D7647     >80     46     ▲ 145        Particles >38µm     ASTM D7647     >20     2     7        Particles >71µm     ASTM D7647     >4     0     0        Oil Cleanliness     ISO 4406 (c)     >20/17/15     21/19/16     24/22/17	Potassium	ppm	ASTM D5185m	>20	2	<1	
FLUID CLEANLINESS   method   limit/base   current   history1   history2     Particles >4µm   ASTM D7647   >10000   ▲ 12603   ▲ 88052      Particles >6µm   ASTM D7647   >1300   ▲ 4494   ▲ 24104      Particles >6µm   ASTM D7647   >320   ▲ 327   ▲ 1114      Particles >14µm   ASTM D7647   >80   46   ▲ 145      Particles >21µm   ASTM D7647   >20   2   7      Particles >38µm   ASTM D7647   >20   2   7      Particles >71µm   ASTM D7647   >4   0   0      Oil Cleanliness   ISO 4406 (c)   >20/17/15   21/19/16   24/22/17	Water	%	ASTM D6304	>2.26	0.346	▲ 0.234	
Particles >4 $\mu$ m   ASTM D7647   >10000   12603   88052      Particles >6 $\mu$ m   ASTM D7647   >1300   4494   24104      Particles >14 $\mu$ m   ASTM D7647   >320   327   1114      Particles >21 $\mu$ m   ASTM D7647   >80   46   145      Particles >21 $\mu$ m   ASTM D7647   >20   2   7      Particles >38 $\mu$ m   ASTM D7647   >20   2   7      Particles >71 $\mu$ m   ASTM D7647   >4   0   0      Oil Cleanliness   ISO 4406 (c)   >20/17/15   21/19/16   24/22/17	ppm Water	ppm	ASTM D6304	>22600	3467.9	▲ 2349.9	
Particles >6µm   ASTM D7647   >1300   ▲ 4494   ▲ 24104      Particles >14µm   ASTM D7647   >320   ▲ 327   ▲ 1114      Particles >21µm   ASTM D7647   >80   46   ▲ 145      Particles >38µm   ASTM D7647   >20   2   7      Particles >71µm   ASTM D7647   >4   0   0      Oil Cleanliness   ISO 4406 (c)   >20/17/15   ▲ 21/19/16   ▲ 24/22/17	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm   ASTM D7647   >320   ▲ 327   ▲ 1114      Particles >21μm   ASTM D7647   >80   46   ▲ 145      Particles >38μm   ASTM D7647   >20   2   7      Particles >38μm   ASTM D7647   >4   0   0      Particles >71μm   ASTM D7647   >4   0   24/22/17      Oil Cleanliness   ISO 4406 (c)   >20/17/15   21/19/16   24/22/17							
Particles >21μm     ASTM D7647     >80     46     145        Particles >38μm     ASTM D7647     >20     2     7        Particles >71μm     ASTM D7647     >4     0     0        Oil Cleanliness     ISO 4406 (c)     >20/17/15     ▲ 21/19/16     ▲ 24/22/17	Particles >6µm		ASTM D7647	>1300	<u> </u>	<b>A</b> 24104	
Particles >38μm     ASTM D7647     >20     2     7        Particles >71μm     ASTM D7647     >4     0     0        Oil Cleanliness     ISO 4406 (c)     >20/17/15     ▲ 21/19/16     ▲ 24/22/17	Particles >14µm		ASTM D7647	>320	<b>A</b> 327	🔺 1114	
Particles >71μm     ASTM D7647     >4     0     0        Oil Cleanliness     ISO 4406 (c)     >20/17/15     ▲ 21/19/16     ▲ 24/22/17	Particles >21µm		ASTM D7647	>80	46	<b>1</b> 45	
Oil Cleanliness ISO 4406 (c) >20/17/15 ▲ 21/19/16 ▲ 24/22/17	Particles >38µm		ASTM D7647	>20	2	7	
	Particles >71µm		ASTM D7647	>4	0	0	
FLUID DEGRADATION method limit/base current history1 history2	Oil Cleanliness		ISO 4406 (c)	>20/17/15	<b>A</b> 21/19/16	▲ 24/22/17	
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2

0.72

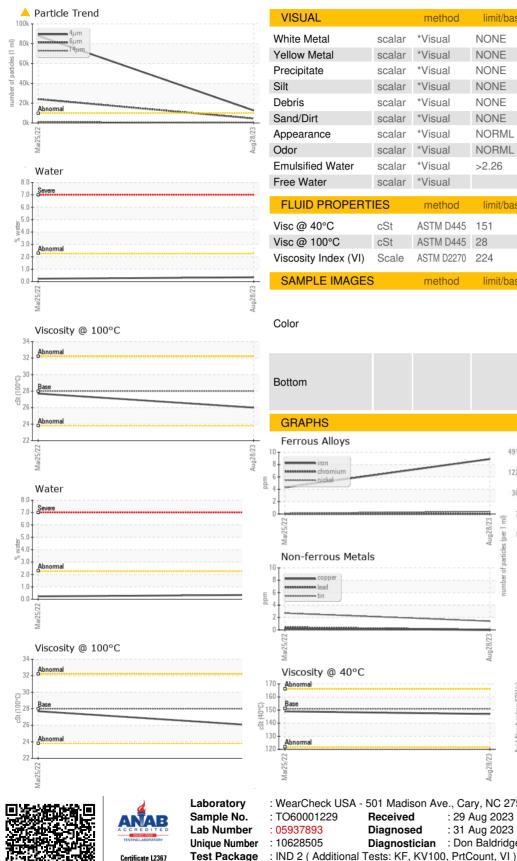
Acid Number (AN)

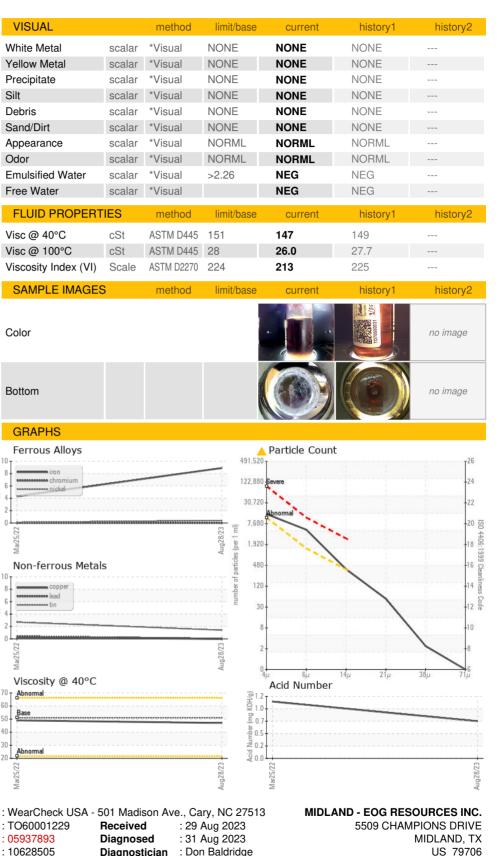
mg KOH/g ASTM D8045

1.10



# **OIL ANALYSIS REPORT**





To discuss this sample report, contact Customer Service at 1-800-237-1369. herman\_garza@eogresources.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Submitted By: MARCO MARTINEZ

Contact: HERMAN GARZA

F:

T: (432)686-3600