

Project No. ASD14-024-00  
March 5, 2014

Mr. Jerry Smothermon, P.E.  
Consultant to POC-I, LLC  
1888 Sherman St., Suite 200  
Denver, Colorado 80203

**RE: Iles Dome Unit POC-I, LLC  
Craig, Colorado**

Dear Mr. Smothermon:

**Raba-Kistner Consultants, Inc. (RKCI)** has completed the requested visual observations and nondestructive testing services at the above referenced facility. Our services were performed in general accordance with the **RKCI** Authorization Form, dated February 25, 2014. These services were requested by Mr. Jerry Smothermon, P.E., consultant to POC-I, LLC. This report contains our field observations and nondestructive testing results.

Mr. Eddie Lee, Certified Welding Inspector (CWI), NDE Level II, with **RKCI**, performed the requested services between the dates of February 24, 2014 and February 26, 2014. Mr. Chris Collins, consultant to POC-I, LLC, was present during our site visits. Ultrasonic testing was performed utilizing a Sonatest Sonagage II, Serial No. 2073 (calibration date 9/5/2013). In addition, daily calibrations were performed utilizing step wedge calibration block #27817, in general accordance with ASNT-TC-1A. The ultrasonic equipment was utilized to measure the thickness of the metal tank shell of each tank. Thickness measurements were performed at every tank shell plate with some additional measurements performed as reported herein. Measurements and visual observations were performed on the tank tops and floors at accessible locations. A total of eight (8) tanks were evaluated. For reporting purposes, tanks were numbered from South to North as Tank #1 through Tank #8. The eight (8) tanks consisted of five (5) 1500 barrel water separation tanks, two (2) 500 barrel oil tanks and one (1) 1000 barrel slop tank. Below is a summary of our site observations and a complete list of the tank wall measurements are presented in Attachment 1.

**Water Tanks #1, #2, #4, #5 and #6**

- Minor water seepage was observed at the bolted seam connections.
- Significant oxidation was observed on the tank tops.
- Oxidation of the top portion (top 18 inches) of the tank walls was observed and appears to be associated with the level of the water in each tank. For tank #2 Wall thickness measurements were taken in the top 16 inches at two (2) inch increments measuring towards the top of the tank. The measurements are summarized below.

Location from top of tank	16"	14"	12"	10"	8"	6"	4"	2"
Measurement (in)*	0.135	0.133	0.131	0.125	0.127	0.120	0.127	0

\*Note: Accurate to approximately +/- 0.002 inches

- The complete list of all the tank wall measurements is included in Attachment 1.

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### **Slop Tank #3**

- Significant oxidation was observed as several location of the tank top.
- Pitting was observed around the roof hatch.
- Minor water seepage was observed at the bolted seam connections.
- The complete list of all the tank wall measurements is included in Attachment 1.

### **Oil Tanks #7 and #8**

- Minor seepage of oil was observed at some of the bolted seam connections.
- The complete list of all the tank wall measurements is included in Attachment 1.

We appreciate the opportunity to be of service to you on this project. Should you have any questions or require additional information, please call our office at your convenience.

Very truly yours,

**RABA-KISTNER CONSULTANTS, INC.**

Preston S. Parker, PMP  
Vice President

Eddie Lee, CWI, NDE Level II  
CWI Consultant

Enclosure: Attachment 1

# OBSERVATION REPORT

Welding Inspection  
Field Copy

ATTN: \_\_\_\_\_

TO: \_\_\_\_\_

PROJECT NO.: ASD 14

DATE 2/24, 25, 26/2014

ASSIGNMENT NO.: S13-

INSPECTOR: Eddie Lee CWI. NDE Level II

PROJECT: Iles Dome Unit POC-1-LLP

On these dates Visual and nondestructive inspections and observations were performed on the above mentioned oil and water separating tanks. These inspections were performed at the request of MR Jerry Smotherton PE. MR Chris Collins consultant was present at these inspections.

Initial visual inspection was performed on the tanks which consisted of 5 1500 bbl. water separation tanks, One 1000 bbl. slop tank and two 500 bbl. oil tanks all of which are of bolted construction design.

Oil Tank #7 & #8

Observed several areas of minor oil seepage at bolted seam connections.

Overall condition of exterior of tanks were found to be operational and ultrasonic evaluations were found to be in accordance with 11gage (.120") nominal thickness. See tank #7 and tank #8 thickness results

Slop tank #3:

Observed several areas of roof top that had severe corrosion and pitting surrounding roof hatch

Tank exterior was inspected and minor seepage was noted at bolted seams.

Overall condition of tank exterior was found to be operational and ultrasonic thickness evaluations were in accordance with 11 gage (.120") thickness. See tank #3 thickness results.

Water tanks #1, #2, #4, #5 & #6

Observed the exterior tank shell on the above mentioned water separator tanks.

Observed minor seepage at bolted seam connections.

Observed extreme corrosion on tank tops.

Observed corrosion on most top ring shell plates above the liquid lines above water outlet pipe. These areas were evaluated for our information.

At approximately 18" down from tank lid no noticeable corrosion or wall thickness was noted. .138" thick

At 16" thickness was .135", at 14 "thickness was .133", at 12"thickness was .131", at 10" thickness was .125", at 8 " thickness was .127", at 6" thickness was .120", at 4" thickness was .127" at tank top complete corrosion was observed.

Results found that 18" from top of tank we started off at .138" and progressive lost wall thickness to 0" at lid connection.

Extreme corrosion was generally concentrated on the water separation tanks at the tank tops and 18" below on tank shells.

Tank repair should be considered for all water tank tops and down approximately 18" on tank shells to existing water outlet.

TANK #2

1500 L water

PANEL	READING	PANEL	READING	PANEL	READING
#1	.122	#1	.134	#1	.129
Door	.147	#2	.131	#2	.133
* #2 (1/2)	.121	#3	.120	#3	.121
#3	.121	#4	.132	#4	.125
#4	.128	#5	.114	#5	.131
#5	.122	#6	.139	#6	.127
#6	.126	#7	.137	#7	.128 *
#7	.127	#8	.141	#8	.128
#8	.126	#9	.142	#9	.119
#9	.119	#10	.137	#10	.135
#10	.125	#11	.128	#11	.113
#11	.122	#12	.128	#12	.118
#12	.130	#13	.122	#13	.121
#13	.125	#14	.132	#14	.131
#14	.131				
#15	.118				

BOTTOM: Approx ~1.5" in from side .100

\* Measurements from stairway (see pic & markings)

.108, .125, .133, .131, .125, .127, .127, .128, .127

\* 1/2 = means about a 1/2 panel



TANK #3

1000 L1 slop tank

LEVEL #1		LEVEL #2	
PANEL	READINGS	PANEL	READINGS
#1	.129	#1	.116
#2	.128	#2	.117
#3	.122	#3	.126
#4	.137	#4	.125
#5	.138	#5	.128
#6	.132	#6	.126
#7	.130	#7	.126
#8	.121	#8	.134
#9	.127	#9	.140
#10	.126	#10	.128
#11	.125	#11	.123
#12	.132	#12	.127
#13	.122	#13	.123
#14	.122 / .126	#14	.126

Roof (from thirt hatch): .127,  $\pm$  .125, .084 (next to pile)

TANK #5

1500 LLI water

## LEVEL #1

PANEL	READING
#1	.160
#2(1/2)	.148
#3	.152
#4	.149
#5	.154
#6	.157
#7	.156
#8	.155
#9	.158
#10	.159
#11	.153
#12	.155
#13	.150
#14	.149
#15	.151

## LEVEL #2

PANEL	READING
#1	.127
#2	.125
#3	.120
#4	.132
#5	.125
#6	.121
#7	.119
#8	.133
#9	.121
#10	.125
#11	.120
#12	.125
#13	.120
#14	.131

## LEVEL #3

PANEL	READING
#1	.130
#2	.128
#3	.128
#4	.134
#5	
#6	
#7	
#8	
#9	
#10	
#11	
#12	
#13	
#14	

Tank #1

1500 L1 water

# LEVEL 1

## LEVEL #2

## LEVEL #3

### PANEL READING

### PANEL READING

### PANEL READING

#1 .117  
#2 .117  
#3 .118  
#4 .123  
#5 .124  
#6 .125  
#7 .128  
#8 .118  
#9 .119  
#10 .117  
#11 .117  
#12 .113  
#13 .119  
#14 .117  
#15 (1/2) .116

#1 .132  
#2 .131  
#3 .128  
#4 .125  
#5 .132  
#6 .124  
#7 .125  
#8 .132  
#9 .133  
#10 .135  
#11 .125  
#12 .127  
#13 .121  
#14 .121

#1  
#2  
#3  
#4  
#5  
#6  
#7  
#8  
#9  
#10  
#11  
#12  
#13  
#14

TANK #7

SOOLLI Oil

PANEL	READING
#1	<del>.128</del> .138

#2	.123
----	------

#3	.130
----	------

#4	.134
----	------

#5	.126
----	------

#6	.129
----	------

#7	.152
----	------

#8	.142
----	------

#9	.126
----	------

#10	.130
-----	------

#11	.129
-----	------

#12	.126
-----	------

#13	.130
-----	------

#14	.154
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Top Head	.159
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Botm Head	.160
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Roof : .131

.134

.134

TANK #8

SOOLLI Oil

PANEL	READING
#1	.130

#2	.132
----	------

#3	.127
----	------

#4	.127
----	------

#5	.152
----	------

#6	.129
----	------

#7	.129
----	------

#8	.123
----	------

#9	.123
----	------

#10	.124
-----	------

#11	.127
-----	------

#12	.124
-----	------

#13	.134
-----	------

#14	.134
-----	------

Roof .132

Top Head .154 Botm Head .152



1500 Lbl water

LEVEL #2

LEVEL #3

<u>PANEL</u>	<u>READING</u>
#1	.122
#2	.128
#3	.123
#4	.121
#5	.128
#6	.126
#7	.122
#8	.119
#9	.121
#10	.128
#11	.120
#12	.125
#13	.131
#14	.126

<u>PANEL</u>	<u>READING</u>
#1	.121
#2	.123
#3	.123
#4	.123
#5	K.123
#6	.136
#7	<del>.128</del> .129
#8	<del>.123</del> .128
#9	<del>.120</del> .123
#10	<del>.129</del> .120
#11	<del>.127</del> .129
#12	.127
#13	.118
#14	.120

5. RECEIVED

150141 water

TANK #1

<u>PANEL</u>	<u>LEVEL #1 READING</u>
#1	.131
Door	.145
#2	.122
Door	.138
#3	.122
#4	.122
#5	.131
#6	.132
#7	.123
#8	.117
#9	.126
#10	.114
#11	.121
#12	.122
#13	.123
#14	.128

LEVEL #2

<u>PANEL</u>	<u>READING</u>
#1	.123
#2	.128
#3	.118
#4	.126
#5	.123
#6	.121
#7	.129
#8	.118
#9	.112
#10	.121
#11	.122
#12	.122
#13	.125
#14	.117

LEVEL #3

<u>PANEL</u>	<u>READING</u>
#1	.120
#2	.113
#3	.117
#4	.114
#5	.127
#6	.128
#7	.127
#8	.126
#9	.118
#10	.121
#11	.109
#12	.118
#13	.115
#14	.122