Quality Control & Inspection Policy & Procedures

2013

TECL# 18220
www.allstarie.com

Tel: (281)298-5757
Fax: (281) 298-6232

523 E. Oak Hill Dr.
Spring, Texas 77386

24 Hour Electrical Service Anywhere

MISSION STATEMENT

QUALITY: Our Quality Assurance (QA) / Quality Control (QC) is the best in the industry. Through in house training, our personnel are educated that quality and safety have a higher priority than productivity. Yes, we are in business to make money; however, we have learned through experience that quality and safety are an integral part of a successful project which directly equates to productivity.

TRAINING: Only with proper training can we grow and provide quality craftsmanship to our clients. We offer our employees in house training and on the job training.

PLANNING / SCHEDULING / TRACKING: We use the critical path method of planning, scheduling, and tracking our projects. Our interaction with other contractors, in conjunction with a seasoned view of the industry, allows us to foresee problem areas and develop corrective action before a potential problem becomes a reality.

Our Quality Control department offers extensive testing and inspections of electrical devices. We provide thorough information of electrical motors, motor data, amp draws of circuitry and testing of equipment. We provide Lockout / Tag-out training to ensure the equipment is correctly and safely locked out. Our mission in this industry is to provide the best craftsmanship of product and ensure the safety of everyone.

"Make It Safe"

"Make It Work"

"Make It Look Good"

Quality Control (QC) Procedures

1. All terminated plugs and receptacles shall be initialed by the electrician terminating these items. (See Example 1).
2. All Lighting fixtures shall be inspected and labeled by the electrician installing these fixtures. (See Example 2).
3. Upon startup of any electrical devices, all cables to any motor and all motors will be megged before energizing.
4. All Distribution panels, Control panels and Electrical panels will be signed upon completion and inspected by All Star I & E Inc. QC personnel. (See Example 3).
5. All grounding shall be complete and inspected by All Star I & E Inc. Electrical personnel before start up of any electrical devices. Grounds shall be installed and ground rods installed where needed.
6. Before startup of any equipment, all breakers, drives and mcc switchgear shall be locked out accordingly.
7. Upon startup, all cables to any control panels shall be point to point tested by All Star I & E Inc. QC personnel.
8. All plugs, cgb's, re's, start/stop covers, manual starters and motor Junction Boxes shall be greased to help prevent seizing.
9. During testing, no one shall plug, unplug, turn on or off any electrical devices without All Star I & E Inc. QC personnel and authorized 3rd parties.
10. Cleanup shall be completed daily upon any job that is finished or unfinished to ensure safety for everyone.
11. When energizing any electrical devices, make sure all surroundings around that area are safe and clear of any people or debris.
12. All proper PPE shall be worn in areas where needed.
13. Punch list will be observed and worked on during job project and near completions. A final punch list will be completed after finished job projects.
14. A Motor Data Sheet will be provided upon completion as well as Rotation Checklist. (See Example 4).
15. Lockout/Tagout training will be provided to any and all personnel for the safety of everyone.
16. Heat temps will be provided for all electrical connections and motors where needed. We also provide thermal imaging test where required. (See Example 5).
17. An electrical test inspection will be documented for wire size, amp draw, breaker size and overall performance of the electrical device.
18. Any hot work being done will need to be authorized and approved through proper personnel. (See Example 6).
19. Procedures will be provided for any technical electrical devices. (See Example 7).
20. All employees must provide an electrical license by the state of Texas and is to be maintained.
21. Safety, Dynamic Risk Assess and professional craftsmanship is required at all times.

Quality Control and Testing

Extensive electrical testing methods are used to provide accurate verification on all electrical devices to ensure the product meets standard criteria and is safe for the working environment.

Voltage, continuity checks and destructive testing are verified for proper start up.

Amp checks to ensure and verify proper amp draw of equipment.

Lockout / Tag-out training to provide safety for everyone.

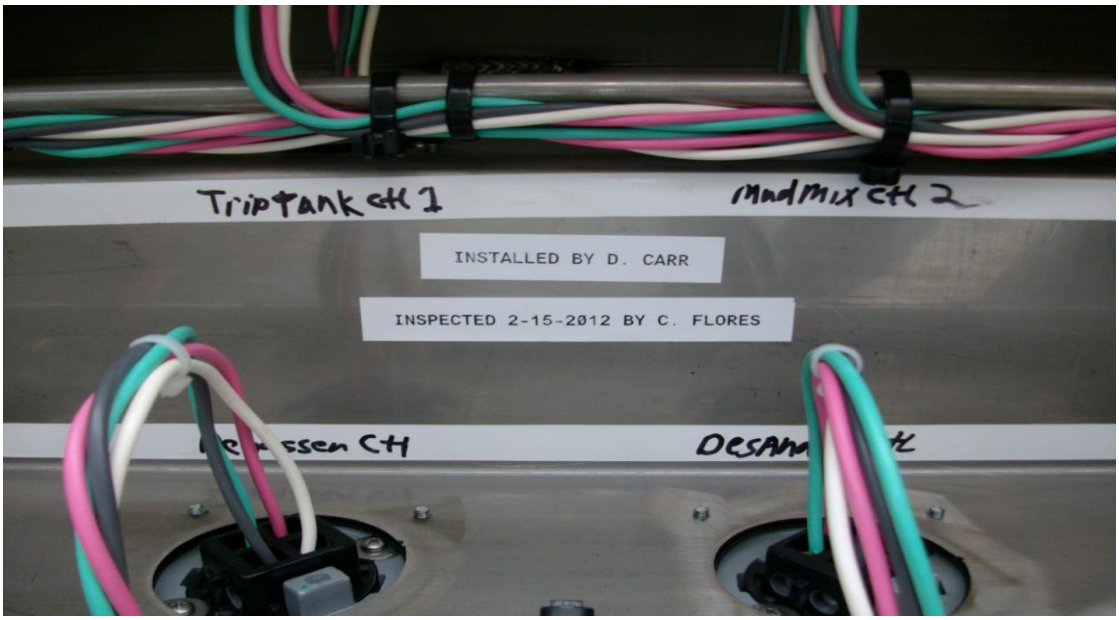
EXAMPLE 1

COMPLETE INITIALIZED ACP

EXAMPLE 2

250W PENDANT LIGHT

EXAMPLE 3
208V SUCTION TANK
DISTROBUTION PANEL / SUITCASE PLUG BOARD



EXAMPLE 3

INSPECTIONS FOR JOB

PANELS/PLUGBOARDS/MOTORS	INSPECTED BY	DATE
480V MUDTANK PANEL		
208V MUDTANK PANEL		
SUITCASE PLUGBOARD		
MUDTANK PLUGBOARD		
OSDH 480V PANEL		
OSDH 208V PANEL		
OSDH INSIDE PLUGBOARD		
OSDH OUTSIDE PLUGBOARD		
FESTOON PLUGBOARD 1		
FESTOON PLUGBOARD 2		
DERRICK PLUGBOARD		
CHANGE HOUSE 208V PANEL		
DRAWWORKS MOTOR		
MP1A MOTOR		
MP1B MOTOR		
MP2A MOTOR		
MP2B MOTOR		

EXAMPLE 4

MOTOR DATA SHEET

Customer:	
Job Number:	
Motor Location:	
Manufacturer:	
Model:	
Serial Number:	
Voltage:	
Amperes:	

Phase to Phase	Resistance Ohms
A to B	
A to C	
B to C	

Phase to Ground	Megger Ohms
A to Ground	
B to Ground	
C to Ground	

Test Date MM/DD/YYYY

Print Name: _____

Title: _____

Signature: _____

EXAMPLE 5

THERMAL TEMPATURE READINGS

DATE: _____ JOB #:_____ AIR TEMP: _____

	480 V PANEL			MOTOR BEARING		SUCTION TANK PLUG BOARD			SUITCASE PLUGBOARD		
	A	B	C	Drive End	Opp Drive End	A	B	C	A	B	C
AGITATOR 1									N/A	N/A	N/A
AGITATOR 2									N/A	N/A	N/A
AGITATOR 3									N/A	N/A	N/A
AGITATOR 4						N/A	N/A	N/A	N/A	N/A	N/A
AGITATOR 5						N/A	N/A	N/A	N/A	N/A	N/A
AGITATOR 6						N/A	N/A	N/A	N/A	N/A	N/A
AGITATOR 7						N/A	N/A	N/A	N/A	N/A	N/A
SHAKER 1									N/A	N/A	N/A
SHAKER 2									N/A	N/A	N/A
SHAKER 3									N/A	N/A	N/A
VACCUM DEGASSER									N/A	N/A	N/A

	480 V PANEL			MOTOR BEARING		SUCTION TANK PLUGBOARD			MCC		
				Drive End	Opp Drive End						
DUCK POND 1	N/A	N/A	N/A			N/A	N/A	N/A			
DUCK POND 2	N/A	N/A	N/A			N/A	N/A	N/A			

EXAMPLE 5

THERMAL TEMPATURE READINGS

	SUCTION TANK PLUG BOARD			MOTOR BEARING		MCC			SUITCASE PLUGBOARD			VFD PLUGBOARD		
	A	B	C	Drive End	Opp Drive End	A	B	C	A	B	C	A	B	C
DEGASSER														
DESANDER														
DESILTER														
CHARGE PUMP 1	N/A	N/A	N/A											
CHARGE PUMP 2	N/A	N/A	N/A											
MUD MIX 1	N/A	N/A	N/A											
MUD MIX 2	N/A	N/A	N/A											

	MCC			MOTOR BEARING		FESTOON PLUGBOARD			HPU PLUGBOARD			VFD PLUGBOARD		
	A	B	C	Drive End	Opp Drive End	A	B	C	A	B	C	A	B	C
HPU 1									N/A	N/A	N/A			
HPU 2									N/A	N/A	N/A			
HPU COOLING FAN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

EXAMPLE 5

THERMAL TEMPATURE READINGS

	VFD PLUG BOARD			FESTOON PLUGBOARD			OSDH PLUGBOARD			TRACTION MOTOR			MCC			MOTOR BEARING	
	A	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**	**Drive End**	**Opp Drive End**
MUD PUMP 1A				N/A	N/A	N/A	N/A	N/A	N/A				N/A	N/A	N/A		
MUD PUMP 2A				N/A	N/A	N/A	N/A	N/A	N/A				N/A	N/A	N/A		
MUD PUMP 1B				N/A	N/A	N/A	N/A	N/A	N/A				N/A	N/A	N/A		
MUD PUMP 2B				N/A	N/A	N/A	N/A	N/A	N/A				N/A	N/A	N/A		
MP 1A BLOWER				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
MP 1B BLOWER				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
MP 2A BLOWER				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
MP 2B BLOWER				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
MP 1 OILER				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
MP 2 OILER				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
DRAW WORKS A													N/A	N/A	N/A		
DW A BLOWER										N/A	N/A	N/A					
DW OIL COOLER										N/A	N/A	N/A					
DW LUBE PUMP										N/A	N/A	N/A					
DW HPU BRAKE SYSTEM										N/A	N/A	N/A					
TRIP TANK 1							N/A	N/A	N/A	N/A	N/A	N/A					
TRIP TANK 2							N/A	N/A	N/A	N/A	N/A	N/A					

EXAMPLE 5

THERMAL TEMPATURE READINGS

	VFD PLUG BOARD			MOTOR BEARING		TRACTION MOTOR			FESTOON PLUGBOARD			OSDH PLUGBOARD			MAST PLUGBOARD		
	A	B	C	Drive End	Opp Drive End	A	B	C	A	B	C	A	B	C	A	B	C
TOP DRIVE				N/A	N/A												
TD LEFT BLOWER						N/A	N/A	N/A									
TD RIGHT BLOWER						N/A	N/A	N/A									
TD HPU MOTOR						N/A	N/A	N/A									
WATER PUMP 1						N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER PUMP 2						N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PRESSURE WASHER 1						N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PRESSURE WASHER 2	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

	MCC			CAMP TRANSFORMER			DISTROBUTION PANEL		
	A	B	C	A	B	C	A	B	C
CAMP XFORMER							N/A	N/A	N/A
RIG MANAGER HSE	N/A	N/A	N/A	N/A	N/A	N/A			
CREW HOUSE	N/A	N/A	N/A	N/A	N/A	N/A			
SAFETY HOUSE	N/A	N/A	N/A	N/A	N/A	N/A			

EXAMPLE 5

THERMAL TEMPATURE READINGS

	BACK OF VFD PLUGBOARD			MOTOR BEARING		MAIN BREAKER LINE SIDE			MAIN BREAKER LOAD SIDE			MCC		
	A	B	C	Drive End	Opp Drive End	A	B	C	A	B	C	A	B	C
GENERATOR 1						N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GENERATOR 2						N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GENERATOR 3						N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FUEL PUMP 1						N/A	N/A	N/A	N/A	N/A	N/A			
FUEL PUMP 2						N/A	N/A	N/A	N/A	N/A	N/A			
AIR COMPRESSOR 1						N/A	N/A	N/A	N/A	N/A	N/A			
AIR COMPRESSOR 2						N/A	N/A	N/A	N/A	N/A	N/A			
COLD START 1				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COLD START 2				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

	MCC			MAIN BREAKER LINE SIDE			MAIN BREAKER LOAD SIDE			VFD PLUGBOARD			DRILLERS CAABIN PLUGBOARD		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
VFD 120/208V PNL 1	N/A	N/A	N/A							N/A	N/A	N/A	N/A	N/A	N/A
VFD 120/208V PNL 2	N/A	N/A	N/A							N/A	N/A	N/A	N/A	N/A	N/A
D CABIN 480V PNL															
D CABIN 120/208 PN	N/A	N/A	N/A							N/A	N/A	N/A	N/A	N/A	N/A
D. CABIN XFORMER	N/A	N/A	N/A							N/A	N/A	N/A	N/A	N/A	N/A

EXAMPLE 5

THERMAL TEMPATURE READINGS

	MCC			OSDH PLUGBOARD			VFD PLUGBOARD			SUITCASE PLUG BOARD			DRILLERS CABIN PLUGBOARD		
	A	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**
SUCT. TANK 208 PNL	N/A	N/A	N/A	N/A	N/A	N/A							N/A	N/A	N/A
SUCT. TANK 480 PNL				N/A	N/A	N/A							N/A	N/A	N/A
OSDH 480V PNL	N/A	N/A	N/A				N/A	N/A	N/A	N/A	N/A	N/A			
OSDH 120/208V PNL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHANGE HOUSE PNL	N/A	N/A	N/A	N/A	N/A	N/A				N/A	N/A	N/A	N/A	N/A	N/A
BOILER HOUSE PNL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

PRINT NAME: _____

SIGNATURE: _____

EXAMPLE 6
DE-ENERGIZED VERIFICATION

JOB#	AREA:	DATE:
SUPERVISOR/ FOREMAN APPROVAL :	QC DEPT. REPRESENATIVE:	

EMPLOYEE ON JOB

NAME	POSITION

JOB DESCRIPTION:

TOOLS REQUIRED: METER AND PERSONAL LOCK

ARE THERE MULTIPLE CIRCUITS YES ☐ NO ☐

IF YES, THEN MULTIPLE CIRCUITS NEED TO BE VERIFIED AND DE-ENERGIZED

LOCKOUT/TAGOUT
DE-ENERGIZED AND
VERIFIED BY:

PRINTED NAME: _____

SIGNATURE: _____

EXAMPLE 6

HOT WORK PERMIT

		Extended Duration	One-time Use Only
Rig Number:	Room/Area:		Authorization #
Job Supervisor:		Date Start:	Expiration Date:
Description of work to be done:			
Description of Circuit/Equipment:			
Justification for why equipment cannot be de-energized:			
Results of Shock Hazard Analysis			
Maximum Voltage:	Glove Voltage Rating: (Inspect gloves before use, check certification date)		
Limited Approach Boundary: (ft)	Restricted Approach Boundary: (ft)	Prohibited Approach Boundary: (ft)	
Results of Arc Flash Hazard Analysis			
Risk Category:	Flash Protection Boundary: (ft)		
☐ Required PPE:			
Safety Checklist (Verify that proper controls are in place):			
☐ Workers must be trained, qualified, and have full knowledge of equipment.			
Safety watch is required. This person must be trained CPR, qualified, be able to cut off all power sources, and have immediate access to a telephone or radio to call 911 in case of emergency.			
☐ Insulated tools and equipment required.			
☐ Remove all jewelry and metal apparel.			
☐ Use barricades and warning signs.			
☐ Documented job briefing including discussion of any job-specific hazards			
☐ See attachment for added information, special requirements, procedures, or written work plans.			
APPROVALS			
Hazard analysis performed by:			Date:
Job Supervisor:			Date:
Electrical Safety Committee Representative:			Date:

AUTHORIZED WORKERS that understand and agree to the above:		
Printed or typed name(s):	Signature(s)	Date(s)

EXAMPLE 7

TOP DRIVE LOCKING PIN PROCEDURE

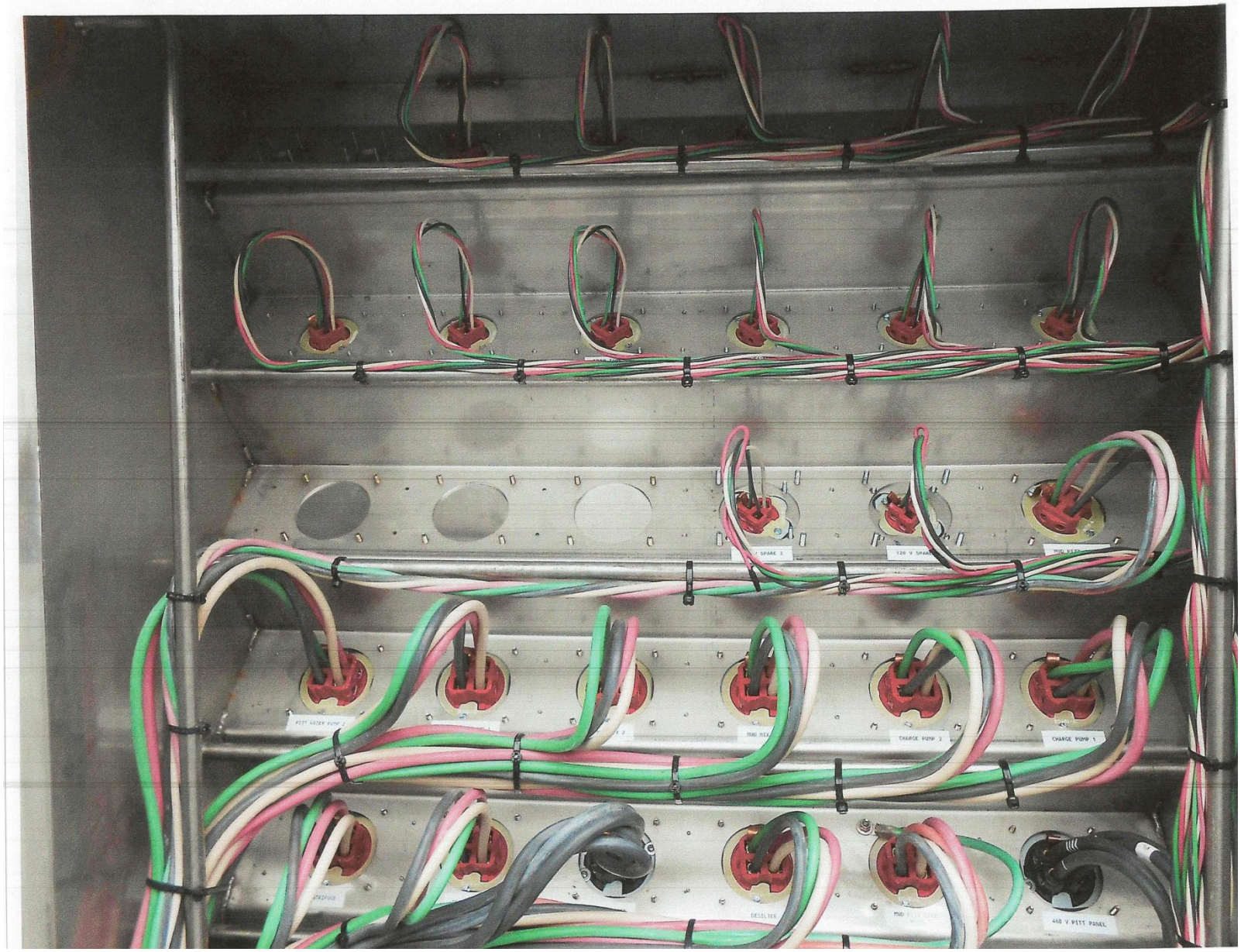
1. Before energizing, make sure the switches are locked out. The breaker will be labeled “Top Drive Locking Pins”. The breaker is located in the Drillers Cabin low voltage panel.
2. When derrick is raised and in the air you must manually remove the locking pins above the Top drive and then remove the safety pins from the Electric pins below the Top drive.
3. The electric pins have a failsafe on them and will not operate when weight of the Top Drive is on them. In order to use you must lift the Top Drive off the electric locking pins.
4. Pick up the Top Drive and make sure it is visually clear from the electric pins.
5. When clear, turn on breaker located in the Drillers Cabin. The breaker will be marked “Top Drive Locking Pins” in the low voltage panel.
6. Then remove both locks on the Primary switch and Extend/Retract switch.
7. Turn on the Primary switch, then turn and hold the Retract switch until the electric pins have completely been retracted. These pins have a limit switch and will stop on their own when limit has been reached. When retracted, install keeper pins back into the electric pins.
8. When retracted, turn both switches off and lockout both devices. When locked out, turn breaker off located in the Drillers Cabin marked “Top Drive Locking Pins” in the low voltage panel.
9. Always have the Top Drive Locking Pins system power off and locked out when not in use.

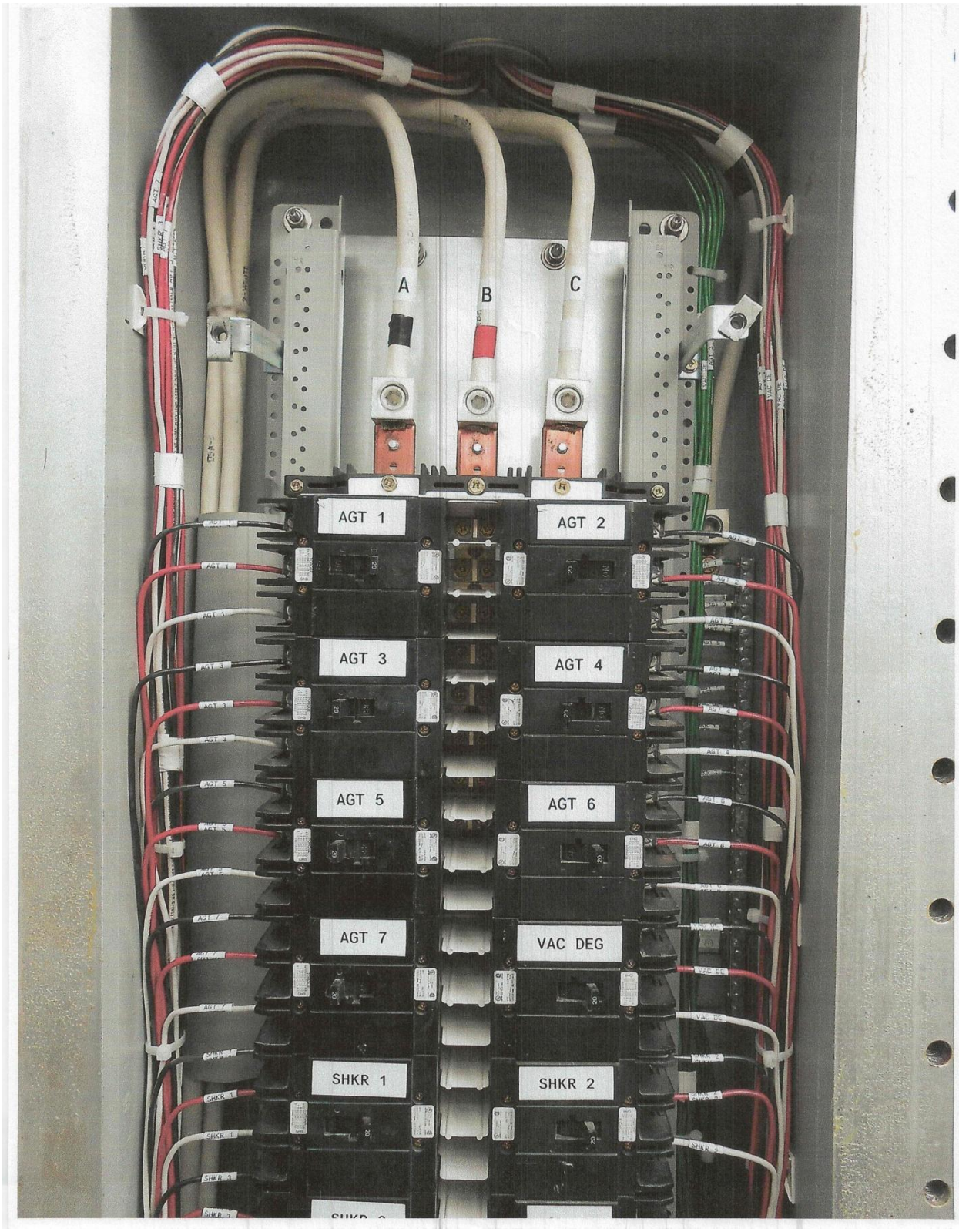
← This is the Primary Switch

← This is the Extend/Retract switch

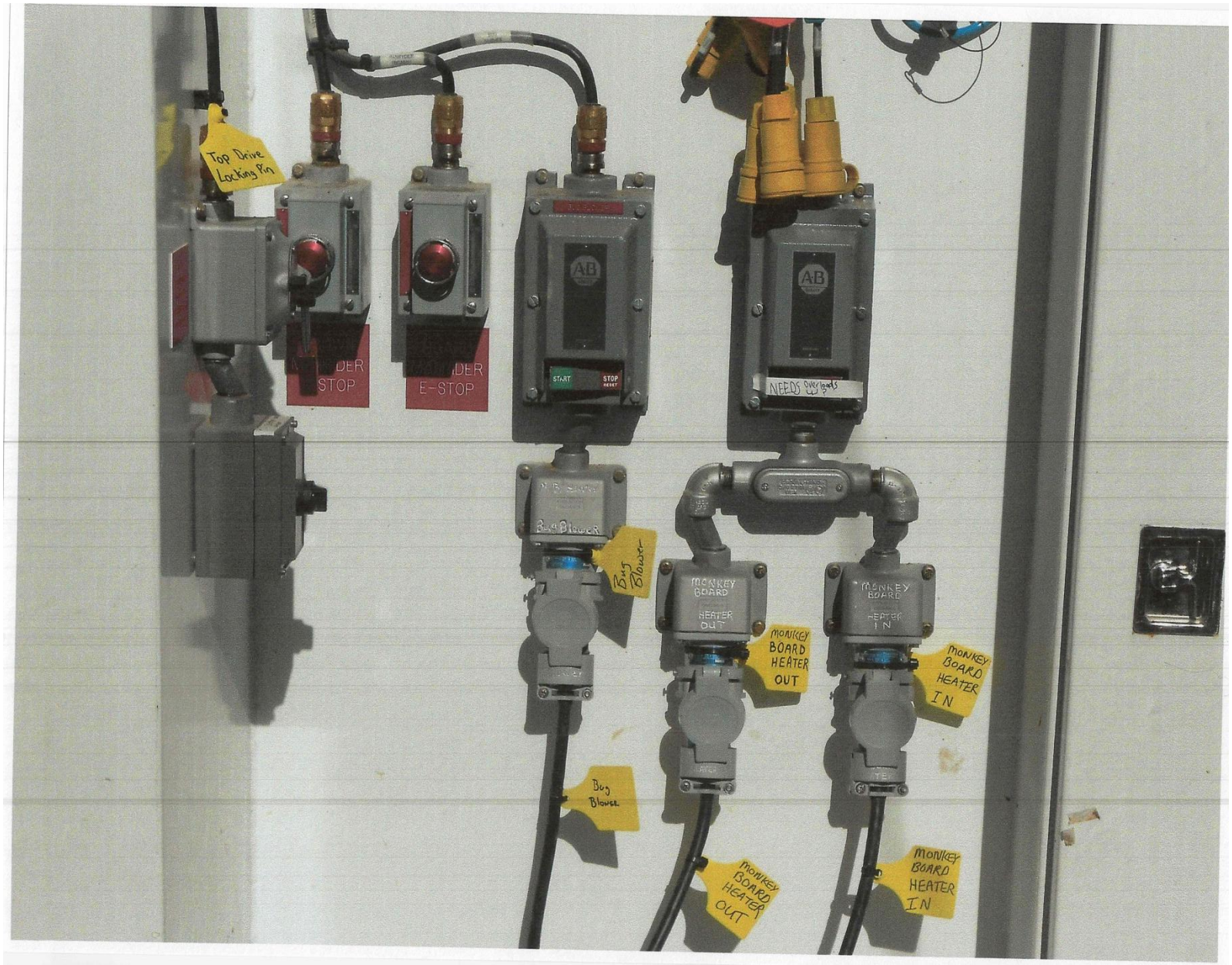
QTY	ITEM DESCRIPTION	UNIT PRICE	UNIT TOTAL	UNIT M/U TOTAL	UNIT LABOR	TOTAL LABOR			
2	START STOP STATION	285.00	570.00	627.00	3.000	300.00		**MTL TOTAL**	**6306.55**
5	PURPLE CGB	3.50	17.50	19.25	0.300	75.00		**MTL TOTAL M/U**	**6937.21**
370	4C 12 TYPE P	1.25	462.50	508.75	0.070	1295.00		**MTL DIFFERENCE**	**630.65**
120	4C 2 TYPE P	9.55	1146.00	1260.60	0.100	600.00			
260	4C 6 TYPE P	4.35	1131.00	1244.10	0.090	1170.00			
60	TIE WRAP	0.44	26.40	29.04	0.100	300.00		**LABOR TOTAL**	**7345.50**
2	CGB398	4.75	9.50	10.45	0.300	30.00			
1	CGB5911	13.65	13.65	15.02	0.500	25.00			
20	3/4 RIGID CONDUIT	1.51	30.20	33.22	0.100	100.00		**GRAND TOTAL**	**14282.71**
1	X27	14.50	14.50	15.95	0.600	30.00		**GT NON-M/U**	**13652.05**
1	3/4 FORM7 COVER	3.55	3.55	3.91	0.125	6.25			
1	3/4 FORM7 GASKET	3.25	3.25	3.58	0.125	6.25			
4	KILLARK 2023 RECP W/BOX	155.00	620.00	682.00	1.500	300.00			
4	KILLARK 2023 PLUG	45.00	180.00	198.00	0.500	100.00			
3	YELLOW CGB	3.50	10.50	11.55	0.250	37.50			
1	4' CL1 DIV2 LIGHT	317.00	317.00	348.70	1.500	75.00			
2	WALLPACK LIGHT	124.50	249.00	273.90	2.000	200.00			
10	PBTS 2-4	10.50	105.00	115.50	0.500	250.00			
10	#12 THHN GREEN	0.15	1.50	1.65	0.007	3.50			
6	1/4 YELLOW RING LUG	0.24	1.44	1.58	0.250	75.00			
30	1/4-20X 1 1/4 BOLT	0.25	7.50	8.25	0.100	150.00			
60	1/4 WASHER	0.25	15.00	16.50	0.010	30.00			
130	1/4 LOCKNUT	0.25	32.50	35.75	0.010	65.00			
10	3/8-16X 1 1/4 BOLT	7.00	70.00	77.00	0.100	50.00			
20	3/8 WASHER	0.25	5.00	5.50	0.010	10.00			
10	3/8 LOCKNUT	0.25	2.50	2.75	0.010	5.00			
10	SAFETY CHAIN	9.50	95.00	104.50	0.300	150.00			
50	BUCHANAN CAP	0.30	15.00	16.50	0.100	250.00			
10	SADDLE MOUNT	0.85	8.50	9.35	0.250	125.00			
10	SADDLE BOLT	0.25	2.50	2.75	0.125	62.50			
5	3/4 CLAMP BACK	0.95	4.75	5.23	0.200	50.00			
5	3/4 STRAP	0.67	3.35	3.69	0.150	37.50			
10	1C 4/0 GREEN	5.50	55.00	60.50	0.100	50.00			

1	4/0 MALE CAMLOCK PLUG	14.52	14.52	15.97	1.000	50.00			
1	4/0 WHITE LUG	3.95	3.95	4.35	0.500	25.00			
2	1/2-12X 3/4 BOLT	0.20	0.40	0.44	0.100	10.00			
2	1/2 WASHER	0.20	0.40	0.44	0.010	1.00			
2	1/2 LOCKWASHER	0.20	0.40	0.44	0.010	1.00			
1	4/0 45DEG FEMALE CONN	19.50	19.50	21.45	1.000	50.00			
1	PENDANT LIGHT	265.00	265.00	291.50	1.500	75.00			
1	710B GLAND	47.00	47.00	51.70	0.500	25.00			
10	3/8 EYE BOLT	2.50	25.00	27.50	0.125	62.50			
6	3/8 X 1/2 NPT	5.00	30.00	33.00	0.125	37.50			
1	250W BULB	19.50	19.50	21.45	0.250	12.50			
50	3C 16 TYPE P	0.71	35.50	39.05	0.065	162.50			
1	LABOR/ EQUP TERMINATION	0.00	0.00	0.00	12.000	600.00			
1	CCP 1034	168.22	168.22	185.04	0.800	40.00			
2	CCP 6034	111.73	223.46	245.81	0.750	75.00			
2	CCP 3044	76.65	153.30	168.63	0.700	70.00			
1	CCP 3023	71.31	71.31	78.44	0.700	35.00			

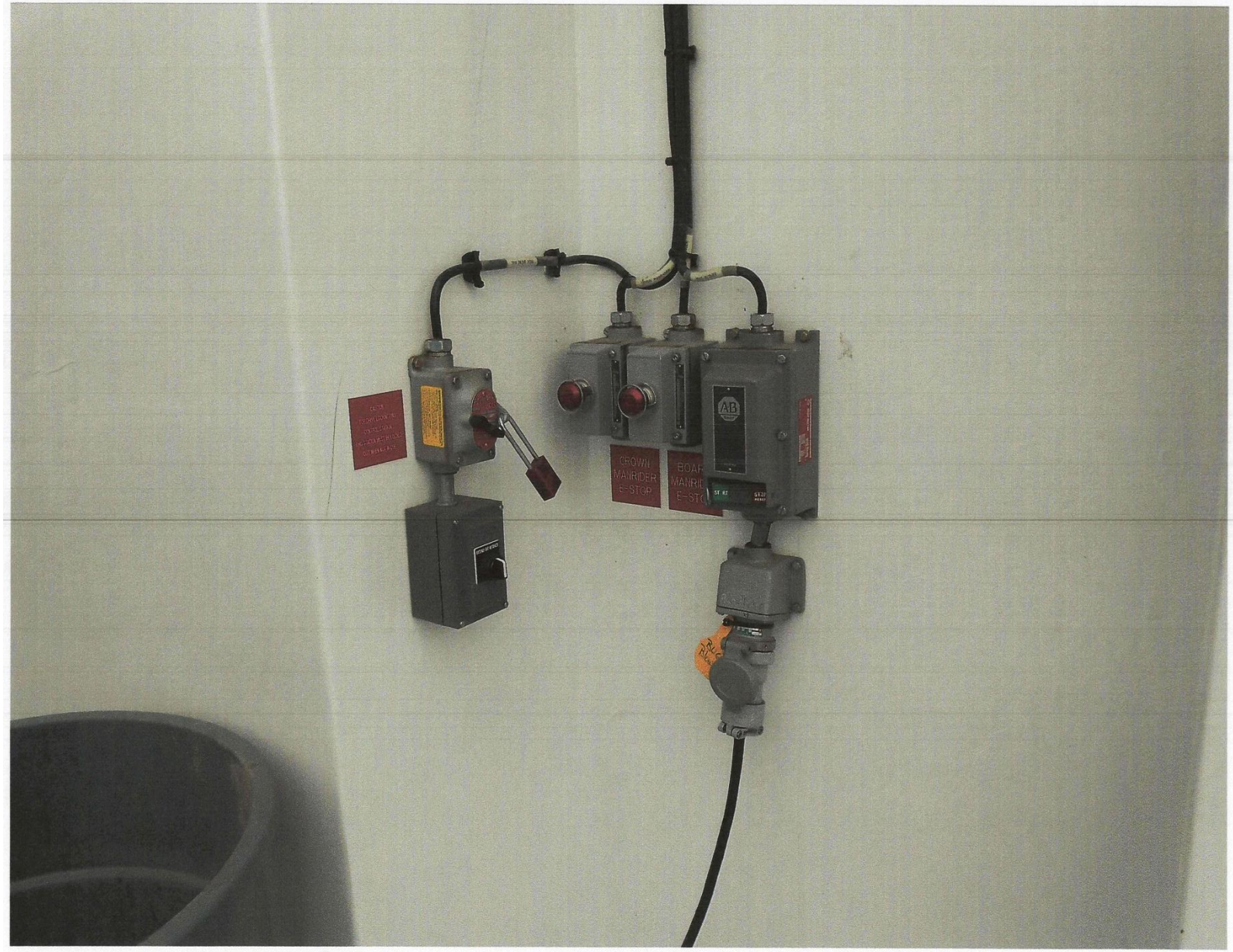

CHARGE PUMP 2
CHARGE PUMP 1
480 V PITT PANEL


A
B
C
AGT 1
AGT 2
AGT 3
AGT 4
AGT 5
AGT 6
AGT 7
VAC DEG
SHKR 1
SHKR 2

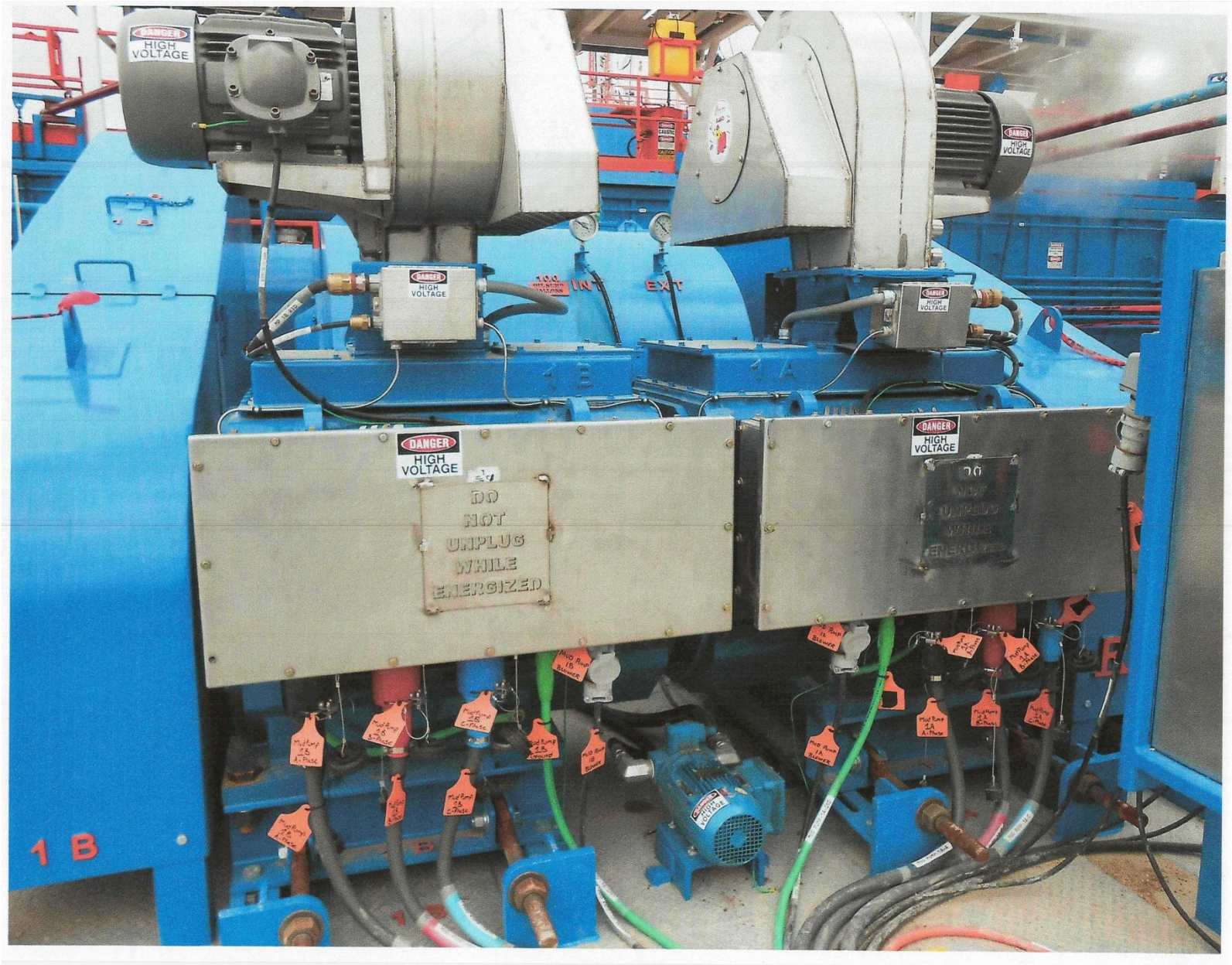
Ruffneck
DANGER
HIGH
VOLTAGE
GESCO


Top Drive Locking Pin
STOP
E-STOP
START
STOP
RESET
NEEDS Overloads
Big Blower
MONKEY BOARD HEATER OUT
MONKEY BOARD HEATER IN
Big Blower
MONKEY BOARD HEATER OUT
MONKEY BOARD HEATER IN


ANNULAR CLOSE
ANNULAR OPEN
TOP PIPE RAM CLOSE
TOP PIPE RAM OPEN
BLIND RAM OPEN
DANGER
HIGH VOLTAGE
OFF
ON
ACCUMULATOR PRESSURE
LOW AIR PRESSURE
PUMP #1
PUMP #2
FLUID LEVEL
POWER FAIL
ALARM RESET/ LAMP TEST
DC BOP CONT
VFD BOP CONT
POWER SUPPLY


CROWN
MANRIDER
E-STOP


DANGER
HIGH VOLTAGE
MUDTANK
480 VOLT PANEL
DANGER
HIGH VOLTAGE
#1


DANGER
HIGH VOLTAGE
DO NOT UNPLUG WHILE ENERGIZED
1 B
1 A