



242049

Client	Canadian Natural Resources Ltd.			Date of Insp.	May 1, 2000		
Prov. Reg. #	242049			Location	Ronalane		
Equipment	Horizontal Treater			LSD	4-1-13-13W4		
Tag/Equip. #	(FWKO)			Comp./Unit #			
Vessel Status	In Operation			Job #	00-229		
Fabricator	CE Natco			Serial #	SN2251	MAWP/Temp	75 psi/ 200F
CRN#	F9229.2			Shell Mat'l	SA-516-70	Shell Thick.	0.375"
Corr. All.	0.0625"			Head Mat'l	SA-516-70	Head Thick.	0.5"
Diameter	8'			Length	22'	RT	4 HT No
Year Built	1987			Next Insp.	2003	Insp. Type	VE/VI/UT/MPI
Service	Sour			Manway	Yes	Coating	Yes
PSV #.							
Mfg.	Consolidated	Serial #	87C2443	Set Pressure	75 psi		
Type/Model	1905KC	Capacity	3246 SCFM	Size	3"		
Date of Service	00/05	Next Service	2003	Service Co.	Remtronic		

**Report # 9135**

**Observations:**

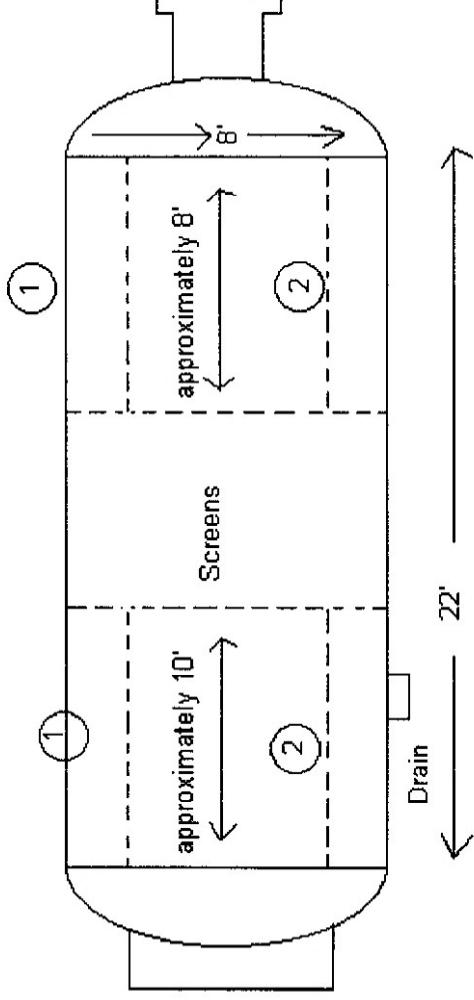
**External** The vessel is painted and in good condition.

**Internal** This vessel does not use firetubes. The firetube support is bent. Previous patches throughout the vessel coating. Internals are in good condition. The drain line has previously been patched. Screens in good condition. Back end: coating is in good condition.

**UT Inspection (Measurements in inches) – see drawing**

Test Point	Nominal		
1	0.375	0.420	0.409
2	0.375	0.416	0.423
1	0.375	0.412	0.418
2	0.375	0.414	0.420
			0.420
			0.430
			0.416
			0.415

**Drawing not to scale**



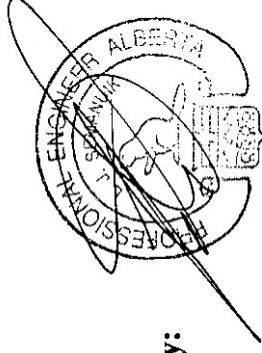
**Note** The UT readings were taken at the liquid level approximately two-thirds of the way up the vessel on the north and south sides.

**Recommendations:**

Vessel is suitable for continued service.

**Inspector: Doug Stelmack**

**Reviewed By:**



RAE Inspection Service (1979) Ltd.  
 #111, 4808 - 87 Street, Edmonton, Alberta T6E 5W3  
 Phone: (780) 469-2401 Fax: (780) 468-2422

**Field Inspection Report**  
**Vessel A # 242049**

<b>Client</b>	Canadian Natural Resources		<b>Date of Insp.</b>		February 9, 2000	
<b>Prov. Reg.#</b>	242049		<b>Location</b>		Grand Forks	
<b>Equipment</b>	Free Water Knock Out		<b>LSD</b>		4-1-13-13W4	
<b>Tag/Equip. #</b>			<b>Comp./Unit #</b>			
<b>Vessel Status</b>	In Operation		<b>Job #</b>		00-071	
<b>Fabricator</b>	Natco	<b>Serial #</b>	2M 2261		<b>MAWP/Temp</b>	75psi/200F
<b>CRN#</b>	F9229.2	<b>Shell Mat'l</b>			<b>Shell Thick.</b>	0.375"
<b>Corr. All.</b>		<b>Head Mat'l</b>			<b>Head Thick.</b>	0.500"
<b>Diameter</b>	~8"	<b>Length</b>	~14"	<b>Height</b>	RT	4 HT
<b>Year Built</b>	1987	<b>Next Insp.</b>	2003		<b>Insp. Type</b>	VE/UT
<b>Service</b>	Sour	<b>Manway</b>	Yes		<b>Coating</b>	
<b>PSV #.</b>						
<b>Mfg.</b>	Consolidated	<b>Serial #</b>	87C2443		<b>Set Pressure</b>	75psi
<b>Type/Model</b>	1905 KC	<b>Capacity</b>	3246 SCFM		<b>Size</b>	3" RF
<b>Date of Service</b>	98/05	<b>Next Service</b>	2000		<b>Service Co.</b>	Unified Valve

**Report # 8650**

**Observations:**

External: Painted gray. Surface in good condition.

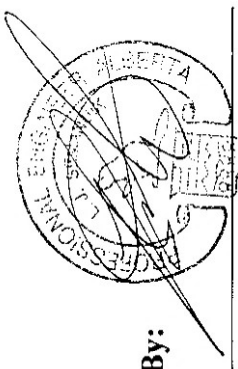
**UT Readings (measurements in inches)**

Test Point	Nominals	A	B	C	D
Head (north side)	0.500	0.598	0.608	0.610	0.612
Shell (level gauge)	0.375	0.414	0.416	0.414	0.413
Head (south side)	0.500	0.580	0.584	0.582	0.586

**Recommendations:**

None at this time.

**Inspector:** Rex Sadaba



**Reviewed By:**

# Certificate of Inspection

SCEPTRE RESOURCES LIMITED  
S W ALBERTA;C/O CANADIAN NATURAL RES.  
2000, 425 - 1 STREET SW  
CALGARY, ALBERTA  
T2P 3L8

LOCATION: 4-1-13-13-W4M;RONOLANE  
COMPANY CODE: BRN300/OPL  
DESCRIPTION: HORIZONTAL PERFORMAX F.W.K.O.

PREFERRED RE-INSP. INTERVAL: 4.00 Yrs  
CRN: F9229.2

MANUFACTURER: NATCO CANADA

SERIAL #: LM2261

YEAR BUILT: 1987  
VOLUME: 31.00 M3

HEATING SURFACE: 0.0 M2

SURFACE AREA: 0.0 M2

PART	MAX. AUTHORIZED WORKING PRESSURE	MAX. TEMP	MIN. TEMP	VALVE ID	SETTING	SAFETY VALVES	CAPACITY LOCATION
SHE	517 KPA	93 C	C	SV1	517 KPA	SHELL	

OWNER INSTRUCTIONS/REMARKS:

SAFETY CODES OFFICER: MATHESON, HAROLD

SIGNATURE: 

NOTE: REQUIREMENTS OF THE SAFETY CODES ACT AND THE REGULATIONS ISSUED THEREUNDER:

THE OWNER OR PERSON IN CHARGE SHALL REPORT ALL ACCIDENTS INVOLVING A BOILER, PRESSURE VESSEL OR PRESSURE PIPING SYSTEM TO THE DISTRICT SAFETY CODES OFFICER IMMEDIATELY AND SHALL SEND A FULL REPORT IN WRITING TO THE ADMINISTRATOR/CHIEF INSPECTOR AS REQUIRED BY THE ACT. NO REPAIRS OR ALTERATIONS MAY BE MADE UNLESS AUTHORIZED BY A SAFETY CODES OFFICER.

EXHIBIT #1

VESSEL INSPECTION REPORT

REVISION NO:

DATE: *May 29/87*

VESSEL NAME: *FWKO Horizontal* LSD: *4-1-13-13W4* COST CENTRE: *16592500*  
 LOCATION: *CNR Grand Forks* COMP EQ NO: *CE Alaska*  
 'ROV' 'A' NO: *242049* CRN NO: *F-92222* YEAR BUILT: *CM-2261*  
 LAST INSPECTION DATE (Method I/E): *May 96 (I)* INSP. FREQUENCY: *1yr*  
 MAX WORKING PRESSURE: *517 KPA* DESIGN TEMP: *93°C*  
 DIAMETER: \_\_\_\_\_ LENGTH/HEIGHT: \_\_\_\_\_

THICKNESS MATERIAL: *SA-516-70*

SHELL HEAD: *9.5mm* OIL   
 HEAD: *127mm* GAS   
 YES  STEAM   
 NO  WATER   
 YES  AIR   
 NO  NGL   
 YES  OTHER   
 NO

CORR. ALLOW  
*1.60*  
*1.60*

SKETCH

INSPECTION COMMENTS:

Inspection methods, metal loss, coatings/finings, internal parts, anodes scales/sludge, method of cleaning, tubes, etc

*Took all manways off of vessel. About 2 feet of sand inside. Cleaned and inspected FWKO. In good shape, coating wearing thin. Minor pits on inside that we grouted. Bore - nozzles of RP at vessel are grouted but have good shell thickness still. Possible blasting and re-coating needed in RP.*

PRESSURE SAFETY VALVES

LOCATION	MANU. MODEL/JSN	SET PRESS	SEAL Y/N	CRN	CAP	DATE TESTED	SERVICE BY	NEXT SERVICE DATE
1.	See	Attached						
2.								
3.								

SUITABLE FOR SERVICE YES  NO  BLOCK VALVES OPEN & LOCKED Y/N  *Y*

Field Inspector: *Randy Gray*  
 Signature: \_\_\_\_\_  
 Chief Inspector Sign: \_\_\_\_\_

PLEASE RETURN THIS FORM TO: SCEPTRE RESOURCES LIMITED  
 BOX 7018, DRAYTON VALLEY, ALTA, T7A 1S3  
 ATTN: DEB HARDEN



# UNIFIED VALVE

# PSV INSPECTION & TEST REPORT

UNIFER VALVE CANADA A DIV. OF UNIFIED VALVE LTD.

DATE May 29, 1997 WO. B1428 ID. T2251  
 CUSTOMER Canadian Natural Resources LOCATION 4-1-13-13 P.O.#       
 MAKE Consolidated TYPE/MODEL 1905KC SN 87C2443  
 CONNECTION TYPE F  T INLET SIZE 3" RF ORIFICE K TAG A-242049  
 SET PRESSURE 75 <sup>(PSI)</sup> KPA BACK PRESSURE      COLD/DIFF. SET PRESS      TEMP 100 °F  
 CAP ASSEMBLY OPEN      CLOSED  LIFT LEVER      CAPACITY 3246 SCFM  
 CODE SYMBOL V (UV) HV      OTHER      CRN 01832.52

CUSTOMER INSTRUCTIONS: Service PRETEST REQUIRED: YES  NO   
 RESET REQUIRED: YES  NO  NEW PRESSURE      PSI/KPA NEW CAPACITY     

VISUAL CONDITION: (GOOD) POOR      OTHER      DATE PLATE CONDITION: (OK) REPLACE       
 SEAL CONDITION: TOP (INTACT) BROKEN      BOTTOM (INTACT) BROKEN      INSIGNIA UVL DATE OF LAST SERVICE 4/96

INDICATE FOULING (SCALE, RUST, CARBON, OIL, SULPHUR, CLEAN, ETC)  
 INLET Scale OUTLET Scale BODY Scale BONNET Scale

PRETEST SIMMER TEST GAUGE ID: # 62 <sup>(PSI)</sup> KPA FULL LIFT 74 <sup>(PSI)</sup> KPA RESEAT 64 <sup>(PSI)</sup> KPA  
 TESTED BY: Dave D. LEAKAGE 30 BPM

ITEM	CLEAN	OILY	RUSTY	CARBON	OTHER	COMMENTS	REPAIRS PERFORMED	OK	REPLACE
DISC					<u>Scale</u>	<u>Slightly Scratched</u>	<u>Lap</u>		
NOZZLE						<u>Light Pits</u>	<u>Lap</u>		
CAP - LEVER ASSEMBLY								<input checked="" type="checkbox"/>	
COMP SCREW & LOCKNUT								<input checked="" type="checkbox"/>	
SPRING & BUTTONS (NUMBER)								<input checked="" type="checkbox"/>	
SPINDLE / STEM								<input checked="" type="checkbox"/>	
DISC HOLDER								<input checked="" type="checkbox"/>	
GUIDE / UPPER RING								<input checked="" type="checkbox"/>	
LOWER RING								<input checked="" type="checkbox"/>	
RING PIN(S)								<input checked="" type="checkbox"/>	
BELLOWS					<u>NA</u>			<input checked="" type="checkbox"/>	
GASKETS / SEALS								<input checked="" type="checkbox"/>	
CONNECTION ENDS								<input checked="" type="checkbox"/>	
OTHER								<input checked="" type="checkbox"/>	

DISASSEMBLY Curtisk LIQUID      <sup>(PSI)</sup> KPA RESEAT 68 <sup>(PSI)</sup> KPA LEAKAGE 0 BPM  
 MEDIUM: (AIR) INSPECTION Dave D. REASSEMBLY Dave D.

FINAL TEST: SIMMER TEST GAUGE ID: # 6 <sup>(PSI)</sup> KPA FULL LIFT 75 <sup>(PSI)</sup> KPA RESEAT 68 <sup>(PSI)</sup> KPA LEAKAGE 0 BPM  
 BACK PRESSURE TEST 60 <sup>(PSI)</sup> KPA ADJ. RING SETTING (NOTCHES) UPPER      LOWER 6  
 TESTED BY Dave D.

SEAL INSTALLED: TOP  BOTTOM  FLANGE, THREAD PROTECTORS INSTALLED   
 PRIMED/PAINTED  PALLETIZED  SHIPPING CONTAINER   
 COMMENTS:     

INITIAL INSPECTION	REFERENCE DATA
CRITICAL INSPECTION	CONDITION AS RECEIVED
FINAL INSPECTION	COMPONENTS INSPECTION
SHIP	FINAL TEST
COMMENTS	SHIP
OFF	COMMENTS
SIGN	SHIP

*[Signature]*

FINAL INSPECTION      CUSTOMER/INSPECTION

SCEPTRE RESOURCES LIMITED  
VESSEL INSPECTION REPORTREVISION NO: 2  
DATE: July 19, 1995

VESSEL NAME Freewater Knockout/Treater LSD 04-01-13-13 W4M COST CENTRE BRN300  
 LOCATION Ronalane COMP EQ NO \_\_\_\_\_ FABRICATOR CE MATCO  
 PROV "A" NO 242049 CRN NO F-9229.2 YEAR BUILT 1987 SERIAL NO LM-2261  
 LAST INSPECTION DATE (Method I/E) May 11, 1995 (I) NEXT INSP DATE May 1996 INSP. FREQUENCY Yearly  
 MAX WORKING PRESSURE 517 kPa DESIGN TEMP 93°C SUBJECT TO FEES yes  
 DIAMETER 8' LENGTH/HEIGHT 26'

	THICKNESS	MATERIAL	CORR. ALLOW
SHELL	9.5 mm	SA-516-70	1.6 mm
HEAD	12.7 mm	SA-516-70	1.6 mm
H2S	YES <input checked="" type="checkbox"/>	OIL <input type="checkbox"/>	SKETCH
	NO <input type="checkbox"/>	GAS <input type="checkbox"/>	
MANWAYS	YES <input checked="" type="checkbox"/>	STEAM <input type="checkbox"/>	
	NO <input type="checkbox"/>	WATER <input type="checkbox"/>	
INSULATION	YES <input type="checkbox"/>	AIR <input type="checkbox"/>	
	NO <input checked="" type="checkbox"/>	NGL <input type="checkbox"/>	
		OTHER <input type="checkbox"/>	

**INSPECTION COMMENTS:**

Inspection methods, metal loss, coatings/linings, internal parts, anodes scales/sludge, method of cleaning, tubes, etc

Pulled firetubes and manways.

Had about 2 - 2 1/2 feet of sand throughout vessel.

Cleaned out and washed.

Coating in good shape.

Sent pop valve in for service.

Put blanks on firetube section.

Hauled tubes away.

## PRESSURE SAFETY VALVES

LOCATION	MANU. MODEL/SN	SET PRESS	SEAL Y/N	CRN	CAP	DATE TESTED	SERVICE BY	NEXT SERVICE DATE
1. Vessel	Consolidated 3" SN 87C 2443	75 psi	Y	1832.5		May 11, 1995	Unifed	May 1996
2.								
3.								

SUITABLE FOR SERVICE

YES

BLOCK VALVES OPEN &amp; LOCKED Y/N

NO

Field Inspector:

Jim Yaroslowsky

Signature: \_\_\_\_\_

Chief Inspector Sign: \_\_\_\_\_



DATE: July 19/95

VESSEL NAME Free Water Washout Treater LSD 4-1-13-13 w/vr COST CENTRE BRN 300  
 LOCATION Rosedale 4-1 Battery COMP EQ NO \_\_\_\_\_ FABRICATOR CE Matco  
 PROV "A" NO 242049 CRN NO F-9229.2 YEAR BUILT 1987 SERIAL NO \_\_\_\_\_  
 LAST INSPECTION DATE (Method I/II) May 11/95 (I) NEXT INSP DATE May/96 INSP. FREQUENCY Yearly  
 MAX WORKING PRESSURE 517 KPA DESIGN TEMP \_\_\_\_\_  
 DIAMETER 8' LENGTH/HEIGHT \_\_\_\_\_

	THICKNESS	MATERIAL	CORR. ALLOW
SHELL	<u>9.5mm</u>	<u>SA-516-70</u>	<u>1.6mm</u>
HEAD	<u>12.7mm</u>	<u>SA-516-70</u>	<u>1.6mm</u>
H2S	YES <input checked="" type="checkbox"/>	OIL <input checked="" type="checkbox"/>	SKETCH _____
	NO <input type="checkbox"/>	GAS <input checked="" type="checkbox"/>	
MANWAYS	YES <input checked="" type="checkbox"/>	STEAM <input type="checkbox"/>	
	NO <input type="checkbox"/>	WATER <input checked="" type="checkbox"/>	
INSULATION	YES <input type="checkbox"/>	AIR <input type="checkbox"/>	
	NO <input checked="" type="checkbox"/>	NGL <input type="checkbox"/>	
		OTHER <input type="checkbox"/>	

## INSPECTION COMMENTS:

Inspection methods, metal loss, coatings/linings, internal parts, anodes  
 scales/sludge, method of cleaning, tubes, etc

Pulled fire tubes and manways. Had about 2 to 2 1/2 ft sand throughout vessel. Cleaned out and washed. Coating in good shape. Sent pop valve in for service. Put blanks on fire tube section. Bent tubes away.

## PRESSURE SAFETY VALVES

LOCATION	MANU. MODEL/SN	SET PRESS	SEAL Y/N	CRN	CAP	DATE TESTED	SERVICE BY	NEXT SERVICE DATE
1. Vessel 3"	<u>87C2443</u>	<u>75 Psi</u>	<u>Y</u>	<u>01832-S</u>		<u>May 11/95</u>	<u>Uni Fred</u>	<u>May/96</u>
2.								
3.								

SUITABLE FOR SERVICE YES  NO  BLOCK VALVES OPEN & LOCKED Y/N

Field Inspector:

Signature:

Chief Inspector Sign: Chelby

PLEASE RETURN THIS FORM TO:

SCEPTRE RESOURCES LIMITED  
 BOX 7018, DRAYTON VALLEY, ALTA, T7A 1S3  
 ATTN: DEB HARDEN

EXHIBIT #1 SCEPTRE RESOURCES LIMITED  
VESSEL INSPECTION REPORT

REVISION NO:  
DATE: NOV 15/94

VESSEL NAME FREE WATER FLOWMETER TRUCKELSD  
LOCATION BONAFINE 4-1-13-13 817 COMP E.O. NO. 4-1-13-13  
PIPING NO. 242041 CNR NO. F-9227.2 YEAR BUILT 1987  
UINSP DATE (Method I/E) APR 12 NEXT INSP DATE 93  
MAX WORKING PRESS 517 kPa DESIGN TEMP 130  
DIAMETER 8' LENGTH/HEIGHT 26'

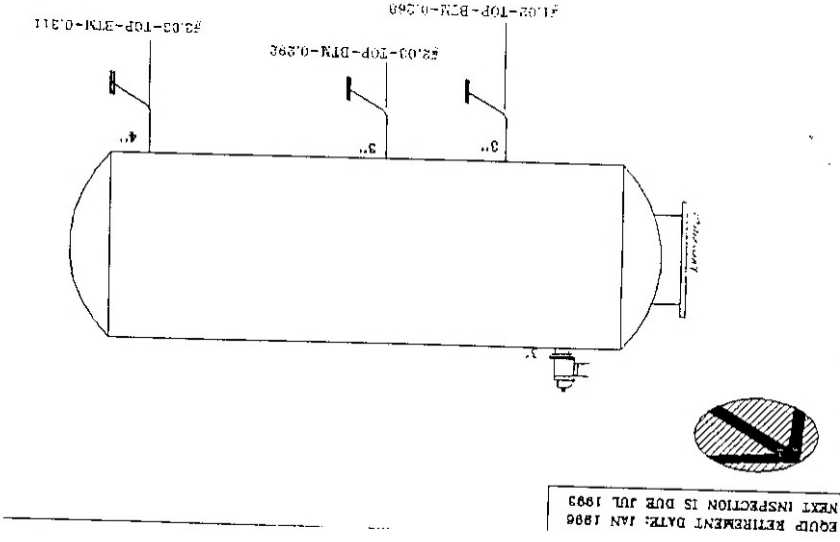
COST CENTRE B.R.N 300  
FABRICATOR C.E. MATCO  
SERIAL NO. 100-2261  
INSP. FREQUENCY YEARLY

you

THICKNESS	MATERIAL	CORR. ALLOW
SHELL <u>9.5 mm</u>	<u>SA-516-70</u>	<u>1.6 mm</u>
HEAD <u>13.7 mm</u>	<u>SA-516-70</u>	<u>1.6 mm</u>

H2S	YES	<input checked="" type="checkbox"/>	OIL	<input checked="" type="checkbox"/>
	NO	<input type="checkbox"/>	GAS	<input checked="" type="checkbox"/>
MANWAYS	YES	<input checked="" type="checkbox"/>	STEAM	<input type="checkbox"/>
	NO	<input type="checkbox"/>	WATER	<input type="checkbox"/>
INSULATION	YES	<input type="checkbox"/>	AIR	<input type="checkbox"/>
	NO	<input checked="" type="checkbox"/>	NGL	<input type="checkbox"/>
			OTHER	<input type="checkbox"/>

SKETCH



INSPECTION COMMENTS:

Inspection methods, metal loss, coatings/finings, internal parts, anodes, scale/sludge, method of cleaning, tubes, etc.

ANSONICS & VISUAL  
ONLY TURNAROUND 93  
INTERNAL PARTS & ANODES - OKAY  
STEAMED FIRE TUBE, FLAME ARRESTOR & STACK  
STEAMED OUT VESSEL - 12" OF SAND & SLUDGE.

PRESSURE SAFETY VALVES

LOCATION	MANU. CONSULTABLE MODEL/IN	SET PRESS	SEAL Y/N	CRN	CAP	DATE TESTED	SERVICE BY	NEXT SERV. DATE
1. VESSEL	3" SN-270.243	75 PSI	Y	018305		June / 93	ASFRONAVE	1995
2.								

SUITABLE FOR SERVICE Yes  No  BLOCK VALVES OPEN & LOCKED Y/N Y

Field Inspector: \_\_\_\_\_

Signature: \_\_\_\_\_

Chief Inspector Sign.: \_\_\_\_\_



# Memorandum

---

**To:** Ross Oberg  
**From:** Jim Yaroslowsky  
**Date:** April 25, 1996  
**Subject:** Vessel Inspections '96

---

Vessel A#'s that we are going to inspect internally this year are as follow:

4-1-13-13 W4M Battery

A-242049  
A-242007  
A-227925

4-9-13-13 W4M Battery

A-228107  
A-79747  
A-242583  
A-228111  
A-149545  
A-153337  
A-244296

15-24-12-14 W4M Battery

A-161485  
A-102652  
A-143315  
A-160384  
A-161444

12-1-12-14 W4M Battery

A-2623038  
A-161295  
A-166086  
A-166085

5-8-12-13 W4M Battery

A-239281  
A-64060

8-13-12-14 W4M Battery

A-161319  
A-149572  
A-143370  
A-102653  
A-141434

9-29-12-13 W4M Battery

A-210632  
A-210629  
A-160467  
A-210633

7-23-12-14 W4M Battery

A-161348  
A-160787  
A-160653

8-7-12-13 W4M Battery

A-059426  
A-137656  
A-161294

8-7-12-13 W4M Gas Plant

A-227036  
A-214166  
A-227034  
A-214167