



Materials Inspection Report

1. Licensee/Location Inspected: Empire Wireline LLC 1000 West First Street McPherson, KS 67460 Location Inspected: Job Site in East China Twp., MI Report Number(s) 2023-002	2. NRC/Regional Office Region III U. S. Nuclear Regulatory Commission 2443 Warrenville Road, Suite 210 Lisle, IL 60532-4352
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3. Docket Number(s) 150-00015	4. License Number(s) GL per 10 CFR 150.20 / KS-27-B992	5. Date(s) of Inspection 10/11/23; exit 10/18/23
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LICENSEE:
 The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

- 1. Based on the inspection findings, no violations were identified.
- 2. Previous violation(s) closed.
- 3. During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements, and were assessed at Severity Level IV, in accordance with the NRC Enforcement Policy.
 - A. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy were satisfied.
 (Non-cited violation(s) was/were discussed involving the following requirement(s))
 - B. The following violation(s) is/are being cited in accordance with NRC Enforcement Policy. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.
 (Violations and Corrective Actions)

Statement of Corrective Actions

I hereby state that, within 30 days, the actions described by me to the Inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

TITLE	PRINTED NAME	SIGNATURE AND DATE
LICENSEE'S REPRESENTATIVE	Not required (no findings)	
NRC INSPECTOR	Ryan Craffey	 <small>Digitally signed by Ryan J. Craffey Date: 2023.10.20 17:04:25 -05'00'</small>
BRANCH CHIEF	Rhex Edwards	 <small>Digitally signed by Rhex A. Edwards Date: 2023.10.26 11:59:06 -05'00'</small>



Materials Inspection Record

1. Licensee Name: Empire Wireline, LLC		2. Docket Number(s): 150-00015		3. License Number(s) KS-27-B992	
4. Report Number(s): 2023-001			5. Date(s) of Inspection: October 11, 2023; exit October 18, 2023		
6. Inspector(s): Ryan Craffey		7. Program Code(s): 03110	8. Priority: 3	9. Inspection Guidance Used: IP 87123	
10. Licensee Contact Name(s): Matthew Chitwood - HSSE Manager		11. Licensee E-mail Address: matthew@empirewireline.com		12. Licensee Telephone Number(s): 337-342-9587	
13. Inspection Type: <input type="checkbox"/> Initial <input type="checkbox"/> Routine <input checked="" type="checkbox"/> Announced <input checked="" type="checkbox"/> Non-Routine <input type="checkbox"/> Unannounced		14. Locations Inspected: <input type="checkbox"/> Hybrid <input type="checkbox"/> Main Office <input type="checkbox"/> Field Office <input checked="" type="checkbox"/> Temporary Job Site <input type="checkbox"/> Remote		15. Next Inspection Date (MM/DD/YYYY): TBD <input type="checkbox"/> Normal <input type="checkbox"/> Extended <input type="checkbox"/> Reduced <input checked="" type="checkbox"/> No change	
16. Location(s) Inspected List: Job Site - Range Road, approximately 1/4 mile south of Bree Road, East China Township, MI Well M12; GPS 42.794452, -82.489660					
17. Scope and Observations: Empire Wireline, a well services company, was authorized by the State of Kansas to use sealed and unsealed source of byproduct material for well logging and storage cavern logging and integrity testing at its facility in McPherson, Kansas, and at temporary job sites in state jurisdiction. The company conducted these activities at temporary job sites in NRC jurisdiction per a reciprocity request approved in February 2023 for the remainder of the calendar year. The scope of this inspection was limited to an evaluation of licensed activities (logging a salt extraction well using a Hotwell Antares D-T pulsed neutron generator containing 1.3 Ci of H-3) at a well field owned and operated by Cargill in East China Township, Michigan. The inspector accompanied the licensee's field personnel to the job site in East China Township. The licensee had been subcontracted to perform periodic evaluations of these salt extraction wells, and as part of this evaluation, the licensee used one of two pulsed neutron generators (the other was there as a backup) to determine the location of the diesel-brine interface within each well. The inspector confirmed that the generator storage containers were adequately secured, blocked and braced, and labeled (UN 2911) for transport. Shipping papers and other records were present as required. The generators were labeled with appropriate etchings; independent surveys of the devices prior to logging operations using a Thermo Scientific RadEye G gamma survey meter (calibrated July 21, 2023) and a Ludlum 26-1 pancake probe (calibrated July 17, 2023) were indistinguishable from background. The inspector observed the conduct of logging operations including rigging the generator up and down. Licensee personnel were knowledgeable of generator operation; demonstrated the functionality of interlocks that (1) prevented the generator from operating less than 170 m (558 ft) below grade and (2) prevented the generator from being raised to less than 20 m (66 ft) below grade within 45 minutes of operation to minimize exposure from short-lived activation products in the generator housing; and wore beta/gamma/neutron dosimetry at all times. Independent surveys of the generator after rigging down were indistinguishable from background on the RadEye and less than 900 cpm on the Ludlum. Confirmatory surveys by the licensee were thorough and consistent with these readings.					

Materials Inspection Record (Continued)

Following the on-site inspection, the inspector interviewed the licensee's RSO by telephone to discuss periodic maintenance and testing of the generator, as well as a prior study performed by the licensee correlating dosimeter neutron readings to true neutron exposure from the generator (which was unlikely to be more than minimal anyways during normal operation assuming functional interlocks), since the licensee's dosimeters were found to be sensitive only to neutrons up to 6 MeV and the generator produced 14-MeV neutrons when energized.

No violations of NRC requirements were identified as a result of this inspection.

Signature and Date - Branch Chief



Digitally signed by Rhex A. Edwards
Date: 2023.10.26 11:58:47 -05'00'