

Electronic Correspondence

August 16, 2012

Mr. Mike Bratcher
State of New Mexico
Oil Conservation Division
811 S. 1st Street
Artesia, NM 88210
mike.bratcher@state.nm.us

Re: Corrective Action Plan

LINN Energy, Skelly Injection Well 39

API No.: 30-015-05361

Legal: Unit C, Section 23, T17S, R31E, 660 FNL, 1980 FWL, Eddy Co., NM

GPS: N32.82457, W103.84122

#### Dear Mike:

Etech Environmental & Safety Solutions, Inc. (Etech) is pleased to submit the following corrective action plan on the aforementioned site for your review and approval.

### Scope of Work

The scope of this project is for the remediation of a produced water/hydrocarbon impact. Completion of remediation will involve the following actions:

- 1. Placement of a one-call for utility location.
- 2. Excavation of impacted soils as far as practicable or until the chloride levels are less than 1,000 mg/kg and/or hydrocarbon levels of less than 5,000 mg/kg are reached. Preliminary assessment data indicated the chlorides exceeded regulatory threshold levels to a depth of 0-1 feet. A copy of the assessment map and the delineation data are attached. Please note: The delineation data was collected from the lowest point in the impacted area where it was evident liquids had pooled. The assessment map includes the delineation data and the sampling points (SP's) that will be used to determine that the excavation has reached remediation objectives.
- 3. During the course of excavation soil samples will be screened on site to determine the progress of the remediation. Screening is achieved using a YSI chloride meter with a tolerance of +/- 6% which is the same tolerance as laboratory titration methods.
- 4. Once the screening determines the remediation objectives have been reached, confirmation samples will be collected from the bottom of the excavation to confirm that remediation goals have been reached. If the excavation depth is greater than 2 feet vertical, side wall samples will be collected as well.
- 5. If the results of analysis determine that the chloride levels are above regulatory threshold levels, additional excavation will be performed until the remediation objectives are met. It should be noted that due to the depth of the impact from the delineation, there may be

circumstance that arise where additional excavation is not practical. This includes reaching the limits of excavation with chlorides that are close to objective levels, safety issues such as the close proximity of equipment, or other site specific issues. In this event, it will be likely to install a liner or a layer of gypsum at the bottom of the excavation before backfilling.

- 6. Backfilling of the excavated area(s) will be achieved by placing clean fill similar to the existing material from the site to within 2 foot of the surface. The last two feet will be backfilled with top soil of similar configuration to the surrounding area and contoured to match the existing grade.
- 7. Where pad areas or interior areas of tank batteries are excavated, they will be backfilled to within 6 inches of surface then backfilled to grade with compacted caliche. Any firewalls or containment berms removed during remediation will be reinstalled.
- 8. The site will be seeded with a 50/50 mixture of BLM #2 and #4 seed. Seeding will take place when the seasonal conditions are conducive to maximizing the potential for seed germination. Actual seeding will be accomplished by broadcast or drilling; whichever is the most practical for the site.

### **Notifications and Special Conditions**

- 1. The OCD and BLM will be notified prior to the commencement of on-site operations.
- The OCD and BLM will be notified prior to each sampling event to allow the opportunity to witness the sampling events. Splits will be made available if requested.
- 3. The OCD and BLM (if applicable) will be notified when the site is closed for final inspection prior to seeding.
- 4. A final report documenting the closure of the site will be submitted along with a final C-141.

Thank you for your assistance on this matter. Should you have any questions, require additional information, or have any additional stipulations for this site, please contact Mr. Gary Wink at (575) 738-1739 (Office) or via email at <a href="mailto:gawink@linnenergy.com">gawink@linnenergy.com</a> or myself at (432) 563-2200 (office) or via email at <a href="mailto:kit@etechenv.com">kit@etechenv.com</a>.

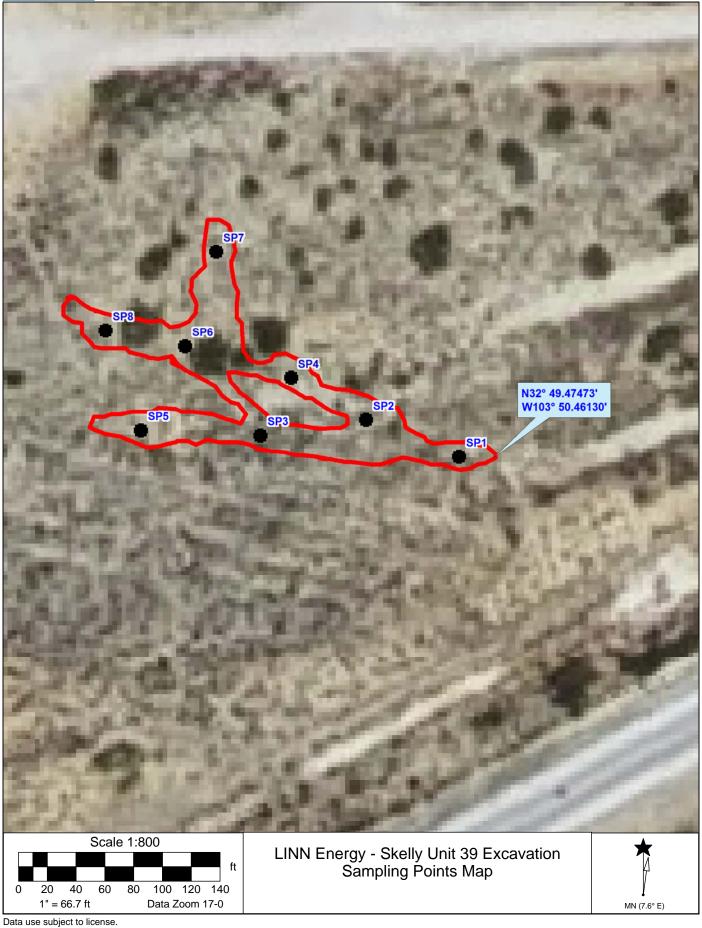
Respectfully:

Kit Prichard

**Environmental Professional** 

cc: Terry Gregston, BLM Carlsbad District Office





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# **Chloride Probe Field Analysis Sheet**

Client:	LINN Energy					
Site:	Skelly Injection Well 39	Project Number: 253-3542-000				
Technican:	Terry Osborn	Contaminant: Chlorides				
Instrument:	YSI Chloride Probe	Model/SN: Pro 1030/114100517				
Calibration Che	ecks Good: Yes No	Claibration Standard: 250				

Date	Sample I.D.	Milliliters of Sample Used	Dilution	Reading (mg/kg)	Final Result (mg/kg)	Notations
08/02/12	HA1 0-1'	10	5.00	5.00	25.00	
08/02/12	HA1 1-2'	10	5.00	6.00	30.00	
08/02/12	HA1 2-3'	10	5.00	6.00	30.00	
08/02/12	HA1 3-4'	10	5.00	8.00	40.00	
08/02/12	HA1 4-5'	10	5.00	9.00	45.00	
08/02/12	HA1 5-6'	10	5.00	8.00	40.00	
08/02/12	HA1 6-7'	10	5.00	11.00	55.00	
08/02/12	HA1 7-8'	10	5.00	13.00	65.00	
08/02/12	HA1 8-9'	10	5.00	12.00	60.00	
08/02/12	HA1 9-10'	10	5.00	11.00	55.00	
08/02/12	HA1 10-11'	10	5.00	47.00	235.00	Refusal
					0.00	
08/02/12	HA2 0-1'	10	5.00	12.00	60.00	
08/02/12	HA2 1-2'	10	5.00	195.00	975.00	
08/02/12	HA2 2-3'	10	5.00	545.00	2,725.00	
08/02/12	HA2 3-4'	10	5.00	3.00	15.00	
08/02/12	HA2 4-5'	10	5.00	4.00	20.00	
08/02/12	HA2 5-6'	10	5.00	3.00	15.00	
08/02/12	HA2 6-7'	10	5.00	2.00	10.00	
08/02/12	HA2 7-8'	10	5.00	2.00	10.00	
08/02/12	HA2 8-9'	10	5.00	6.00	30.00	Refusal
					0.00	
					0.00	
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Calibration Cha	cks Good:	Claibration Standard: 250	hration Standard: 250	

Date	Sample I.D.	Milliliters of Sample Used	Dilution	Reading (mg/kg)	Final Result (mg/kg)	Notations
08/02/12	HA3 0-1'	10	5.00	14.00	70.00	
08/02/12	HA3 1-2'	10	5.00	11.00	55.00	
08/02/12	HA3 2-3'	10	5.00	9.00	45.00	
08/02/12	HA3 3-4'	10	5.00	11.00	55.00	
08/02/12	HA3 4-5'	10	5.00	13.00	65.00	
08/02/12	HA3 5-6'	10	5.00	9.00	45.00	
08/02/12	HA3 6-7'	10	5.00	25.00	125.00	
08/02/12	HA3 7-8'	10	5.00	16.00	80.00	
					0.00	
08/02/12	HA4 0-1'	10	5.00	785.00	3,925.00	
08/02/12	HA4 1-2'	10	5.00	1095.00	5,475.00	
08/02/12	HA4 2-3'	10	5.00	645.00	3,225.00	
08/02/12	HA4 3-4'	10	5.00	42.00	210.00	
08/02/12	HA4 4-5'	10	5.00	160.00	800.00	
08/02/12	HA4 5-6'	10	5.00	202.00	1,010.00	
08/02/12	HA4 6-7'	10	5.00	8.00	40.00	
08/02/12	HA4 7-8'	10	5.00	26.00	130.00	
08/02/12	HA4 8-9'	10	5.00	51.00	255.00	
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