Incident Description

The West Artesia Grayburg Unit No. 4, an injection well, was being flowed back into a frac tank prior to well repairs. The tank overflowed sometime between the evening of 7/20/10 and the morning of 7/21/10. The water flow was immediately halted and the tank was drained. The resulting impacted area is located to the west of the location and onto the adjacent pasture. The release also had sufficient volume to cross County Road 231 and flow onto a local two-track road. The impacted area was measured to be approximately three hundred sixty feet (360') long by twenty feet (20') wide at the location, and it measures approximately one hundred ninety feet (190') by eight feet (8') across CR 231.

Sampling Activities

On November 3, 2010 Talon personnel and a Talon Geoprobe Rig (direct-push sampling technology) were mobilized to the site to obtain soil samples. The purpose of the soil assessment was to assess the vertical depth of chloride impacts within the release area. Five borings (S-1, S-2, S-3, S-4 and S-5) were advanced and soil samples were collected for laboratory analysis to a depth of 4-feet below land surface. Sample locations S-1, S-2 and S-3 were located near the source of the release along the flow path to the west. Borings S-4 and S-5 were drilled on the west side of CR 231 in the impacted areas of the two-track road.

The grab soil samples were obtained by Talon personnel wearing clean nitrile gloves. Soil samples were containerized in laboratory provided glassware and sent to Cardinal Laboratories of Hobbs, New Mexico for total chloride analysis pursuant to Method SM4500Cl-B. A complete copy of the laboratory analytical report is attached in Appendix II. Our sampling results are highlighted on the following data table.

Analytical Results

Laboratory Results

Sample	Depth (ft)	Chloride concentration (mg/kg)
S-1	0-feet	64,000 mg/kg
S-1	1'	5,760
S-1	2'	6,000
S-1	4'	432
S-2	0'	102,000
S-2	1'	5,440
S-2	2'	4,880
S-2	4'	80

Sample	Depth (ft)	Chloride concentration (mg/kg)
S-3	0-feet	126,000 mg/kg
S-3	1'	4,240
S-3	2'	1,720
S-3	3'	2,400
S-3	4'	48
S-4	0'	66,400
S-4	1'	1,880
S-4	2'	1,200
S-4	3'	80
S-4	4'	64
S-5	0'	30,400
S-5	1'	6,560
S-5	2'	4,640
S-5	3'	768
S-5	4'	288

Summary and Conclusions

- Groundwater in the project vicinity is greater than 50-feet below land surface per the New Mexico State Engineer Database.

- Based upon the results of the soil assessment data obtained for this investigation, the vertical chloride impacts from the produced water release have been delineated to approximately 3-4 feet below land surface.

- Based on the depth to groundwater and the extent of chloride levels detected in the soil at this location, it is unlikely that the chloride impacts identified from this release will pose a threat to groundwater.

TALON LPE
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Project Correspondence Sheet

☐ Field ☐ Office ☐ Reimbursement ☐ Proposal
☐ OK ☐ NM ☐ TX ☐ Other

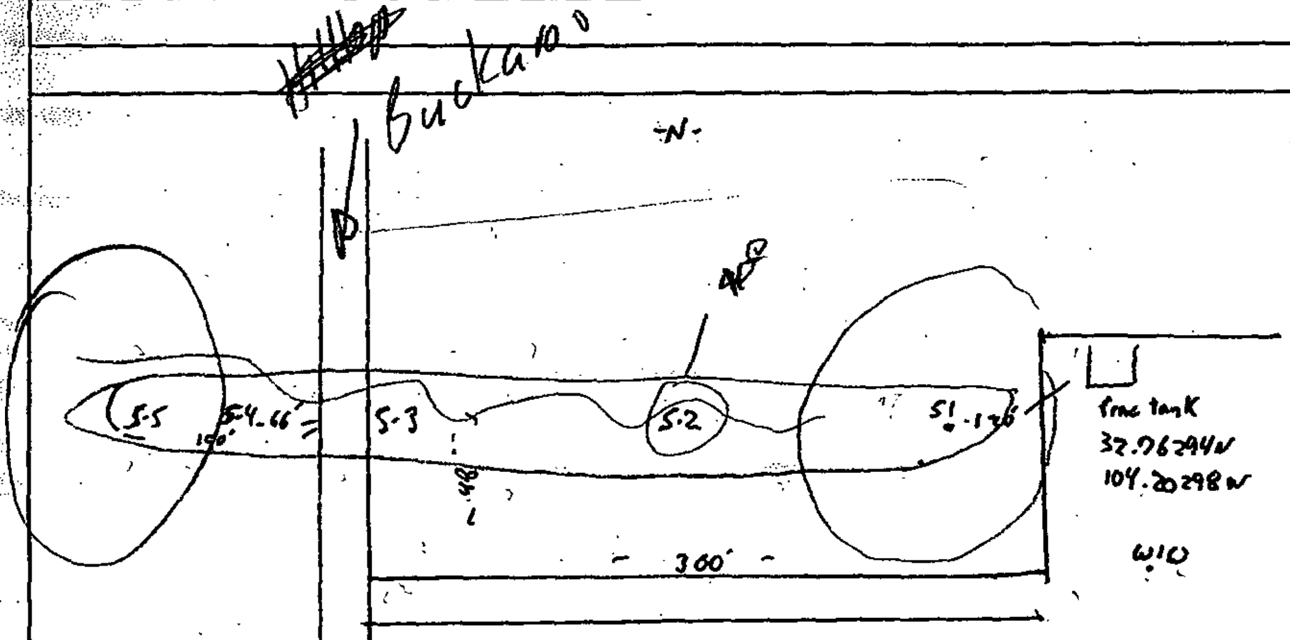
Date: 11/2/2010	Time: 12:30P	Project Manager:

Project Number: 701358.003.01

Project Name: Gib Unit #4

Topic:

Notes:



S-1	32.76282N 104.20338W
S-2	32.76252N 104.20361W
S-3	32.76236N 104.20388W
S-4	32.80085N 104.23465W
S-5	32.76219N 104.20466W.

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