

# R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266.0745  
Artesia ▲ Carlsbad ▲ Durango ▲ Midland

August 19, 2016

Ms. Heather Patterson  
New Mexico Oil Conservation Division  
811 S. 1st Street  
Artesia, NM 88210  
Via E-Mail

Ms. Shelly J Tucker  
Bureau of Land Management  
620 E. Greene Street  
Carlsbad, NM 88220  
Via E-mail

RE: Corrective Action Plan- 2RP-3333 Marker Oil; Minor Modification  
NSLU #3: Unit J, Sec 19, T16S R31E, Eddy County, NM

Ms. Patterson and Ms. Tucker:

On behalf of Marker Oil, R.T. Hicks Consultants, Ltd. is pleased to submit this minor modification to the Corrective Action Plan submitted by eTech on November 6, 2015 and approved by OCD (12-31-15). We do not believe the E-Tech CAP was approved by BLM. We propose to employ Corrective Action #2 for this site, as described in the attachment. We believe, based upon existing evidence, that the remedy will require about 12 months from approval to submission of a final report.

The OCD- approved remedy (see page 2 of eTech CAP) is presented below with our proposed changes in *italics* and ~~strikethrough~~.

1. *Identify the root cause of the release*
2. *Repair or replace the infrastructure or operational practice that caused the release*
3. Placement of a one-call for utility location.
4. Collect samples at each of the three previously-sampled locations at depth intervals of 2-feet to a total depth of 12 feet for evaluation of chloride.
5. The first eighteen inches of soil will be mechanically tilled to break up the soil. ~~The impacted area will then be treated with a mixture of DeSalt and fresh water. The impacted area will then be blended again.~~
6. *Build 4-8 inch berms in and around the release footprint in a manner that*
  - a. *Will capture precipitation and create ponding within the footprint*
  - b. *Will prevent overland transport of any salt or hydrocarbons from the spill footprint.*
7. ~~Once screening determines the remediation objectives have been reached, confirmation samples will be collected from the remediation to confirm that remediation goals have been reached.~~
8. ~~If the results of analysis indicate that the chloride levels are above regulatory threshold levels, additional treatment will be performed until the remediation objectives are met.~~
9. *Take photographs of the site every 30-60 days and check on erosion, volunteer vegetation, overall condition of the berms and remedy*
10. *When volunteer vegetation is observed or 12 months after approval of this remedy, we will collect samples from the three sample locations at depths of 0-1 foot 2 feet and 4 feet.*
11. The site will be seeded with BLM #2 *when volunteer vegetation is observed* 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.

12. *Provide photo documentation and a final C-141 when a uniform vegetative cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds is observed within the spill footprint. This report will include the description of repairs/upgrades to minimize the potential of a repeat of this release mechanism.*

The data from the ETech CAP is reproduced below to confirm that this site meets the criteria established for Corrective Action #2, which are:

- The soil horizon is dominantly sand but clay is present in the samples
- The average chloride concentration from the 0-36 inch sampling program is greater than 3000 mg/kg or hydrocarbon hardpan is present or could form above the 36-38 inch sample
- Implementing a mechanical remedy will not create more environmental damage that allowing natural processes to restore vegetation



| Assessment Results               |             |                    |
|----------------------------------|-------------|--------------------|
| Sample I.D.                      | Depth (ft.) | Chlorides (mg/kg)* |
| AH 1                             | 3           | 15,490             |
| AH 1                             | 5           | 2,930              |
| AH 1                             | 7           | 6,440              |
| AH 1                             | 8           | 4,170              |
| AH 1                             | 10          | 5,150              |
| AH 1                             | 10-11       | 4,080              |
| AH 1                             | 11-12       | 3,430              |
| AH 1                             | 12-13       | 2,410              |
| AH 2                             | 0.5         | 28,160             |
| AH 2                             | 1.5         | 4,170              |
| AH 2                             | 3           | 1,860              |
| AH 2                             | 5           | 5,150              |
| AH 2                             | 7.5         | 2,010              |
| AH 2                             | 8-9         | 1,180              |
| AH 2                             | 9-10        | 1,710              |
| AH 2                             | 10-11       | 1,510              |
| AH 2                             | 11-12       | 3,270              |
| AH 2                             | 12-13       | 2,980              |
| AH 3                             | 0           | 4,320              |
| AH 3                             | 0.5         | 7,340              |
| AH 3                             | 1.5         | 6,450              |
| AH 3                             | 3           | 5,470              |
| AH 3                             | 4           | 1,470              |
| TPH*- Non Detect for all samples |             |                    |
| *In house analytical             |             |                    |
|                                  |             |                    |
|                                  |             |                    |
|                                  |             |                    |

Please contact me if you have any questions relating to this minor modification. Marker Oil will like to implement this remedy before May 15, therefore a rapid review is appreciated.

Sincerely,  
R.T. Hicks Consultants

A handwritten signature in black ink, appearing to read 'Randall Hicks'.

Randall Hicks  
Principal

Copy: Marker Oil  
BLM Carlsbad