R. T. HICKS CONSULTANTS, LTD.
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April DRAFT

Mike Bratcher
NMOCD District 2
811 South First Street
Artesia, New Mexico 88210

RE: Clayton Williams Energy, Inc. – Jenna Com Release 2RP-2458-0

Dear Mr. Bratcher:

This remediation plan presents the results of all previous sampling at the site, including the most recently conducted in March of 2016. We believe that the data provide sufficient characterization of the various releases to permit NMOCD consideration of the remedy presented herein. The remedy is based upon a recently approved remedy in Lea County (attached).

Site Characterization Results.

Figure 1 provides the data from the first field program of 2013. These data were included in an October 4, 2013 submission to OCD.

Figure 2 shows the results of a 2014 trench sampling program to characterize the vertical extent of chloride beneath the footprint of a 2014 release, which occurred over the footprint of the 2013 release. Figure 2 also presents the most recent surficial soil sampling conducted in March of 2016.

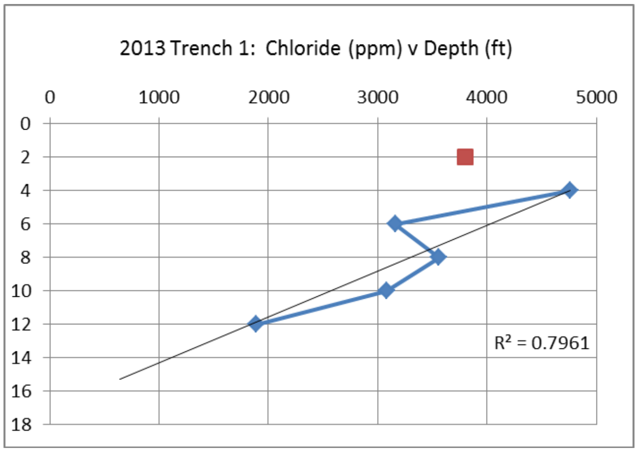
Figure 3 shows the elevation of the groundwater surface in the general area plotted on a topographic map with metric contour lines. Beneath the site, the potentiometric surface is about 3530 feet above sea level. Given the 3604 surface elevation of the Jenna Com #1 well, the depth to groundwater is (3604-3530 =) 74 feet.

Nearby surface water features are depicted in Figure 4. The closest mapped intermittent stream is about 900 feet to the northeast. While a small swale exists due north of the spill footprint, a watercourse with a defined bed and bank does not exist in this grassy low spot. We also checked our system and found no nearby mapped wetlands.

Figure 5 shows a somewhat surprising interpretation of karst potential of this area. We are not surprised that the area to the west of the Jenna site, due east of the Turkey Track Ranch HQ, is mapped as high karst. You may remember we observed sinkholes in the area that was previously mapped by BLM as low karst and we may have brought this finding to the attention of BLM. The area near the Jenna Com #1, however, shows no signs of sinkholes, fissures or solution features or unstable ground. Although we will take a closer look during the next field event, such voids actually result in higher attenuation of unsaturated transport to groundwater. Thus, any subsurface voids that are not apparent at the surface is a good thing with respect to our proposed remedy.

Interpretation of Data

Figure 1 shows the near-surface chloride values that resulted from the 2013 release plus historic releases. The low spot where the 2013 release pooled (Grid A-2), and presumably where legacy releases may also have pooled, showed the highest chloride concentration of 6480 mg/kg. The northwest grid points, furthest from the point of release, are near background conditions.

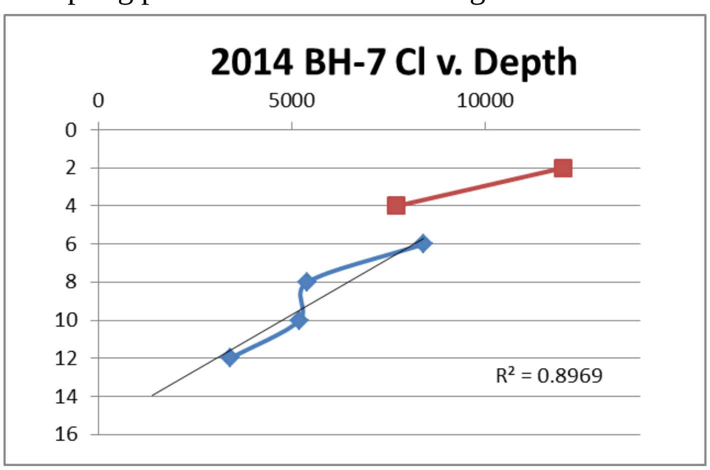


A 2013 trench at the "worst case" location in grid A-2 shows a decline of chloride concentration with depth. We projected the data from 4-12 feet below grade to provide an estimate of the depth where a concentration of 250 mg/kg would be expected. This trendline has a relatively high correlation coefficient of 0.796 and predicts that the 2013 and historic releases penetrated to a depth of about 16 feet.

Also shown on Figure 1 are results of two discrete samples of material removed from the spill footprint to the south side of the location. The chloride concentration of the pile is consistent with the surface concentrations observed in the grid sampling.

As documented by the data from the excavated soil pile, EPA Method 418.1 exaggerates the actual TPH by an order of magnitude. An examination of the laboratory reports show that GRO is not detected in the samples and thus the TPH concentration using Method 8015 is 505 mg/kg for the top of the pile and 454 mg/kg for the bottom of the pile.

Figure 2 presents data responding to a 2014 release from the battery. Four deep soil sampling points were obtained using a backhoe from within the footprint of the release.



All four trench samples show a decline of chloride with depth. The "worst case" location is plotted in the graphic to the left. Using the data from 6 feet to 12 feet, a simple trend line projection predicts a depth of penetration of about 14 feet. The correlation coefficient of 0.897 is quite good.

The 2016 surface samples present a materially different picture than those collected in 2013. Grid A-2 remains an area of pooling. However, since 2014, precipitation runoff has pooled in this area creating a lower chloride concentration, probably due to chloride flushing. Grid B-1 is an area of higher elevation within the release footprint and the value of 3900 mg/kg is essentially identical to that observed in 2013 (4680 mg/kg). In general, time plus precipitation has reduced the chloride concentrations by an order of magnitude wherever infiltration of precipitation occurs.

Data from the south soil bioremediation cell tell a similar story of chloride flushing plus reduction of hydrocarbons over time. In 2016, we collected samples from three locations from depths of 0-6 inches in order to gain some insight about the success of the remedy proposed to OCD in 2013. Chloride and hydrocarbon concentrations of the near-surface material are one order of magnitude less than that observed in 2013.

Proposed Remediation Plan

The salinity caused by the 2013, 2014 and historic releases will be flushed from the surface to below the root zone by periodic pooling of storm water runoff over the impacted area. During large precipitation events (> ½ inch/24 hours) diversion of stormwater from the production pad and the road into the basins of the remedy should cause twice the volume of precipitation to pool in the chloride flushing basins. We believe smaller precipitation events will cause minimal diversion of fresh water into the basins. The highest (southern) basin (see Figure 6) will overflow into the second basin when the water level exceeds the elevation of the culvert. Less flow will obviously enter the second basin and third basin where chloride concentrations are currently lower than the first basin.

After sampling confirms that salt flushing is complete, the flushing area will be graded to eliminate ponding, to maintain revegetation and to blend with the surrounding area. The result of grading will cause chloride concentration in excess of 800 mg/kg to lie 2-4 feet beneath the new vegetated surface.

The south bioremediation pile will be tilled, contour furrowed and seeded to enhance reduction of concentrations via phytoremediation.

Remediation Contractor Instructions

A. Grade the site to create three (3) areas of level ground separated by 1-2 foot high berms. The former spill site will look like three irrigated terraces: with the southern terrace being about 1-2 feet higher than the middle terrace and 2-4 feet higher than the northern terrace. Figure 6 shows how the area will appear.
B. Use a plow or other tool to break up and till what is now hardened earth inside of the terraces into 1-2 feet of permeable, loose, soil-like material. Blend in rotted hay if necessary to increase permeability and organic content.
C. Divert stormwater from much of the production pad and road to the highest (southern) flushing basin. As shown on Figure 3, use small berms and swales (about 2-3 inches high/deep) to direct stormwater flow without interfering with E&P operations.
D. Berms divert stormwater near the injection well to the west to avoid any input of salt to the remediation basins due to unexpected releases.
E. Install two 12-inch culverts on the west side of the southern basin 4-6 inches above the level surface to allow overflow of stormwater into the second basin (red arrows).

F. Install two 12-inch culverts on the east side of the second basin 4-6 inches above the level, tilled surface to allow stormwater to flow into the last and lowest basin. A berm bisects the lower basin to direct flow to the west
G. The lowest point of the northern basin lies in the northeast corner where 2 12-inch culverts allow any residual stormwater to drain into the ditch on the side of the road.
H. Furrow the surface of each terrace and seed the area with a mixture approved by the surface owner (State Land Office).
I. At the south bioremediation pile,
    a. deep plow the material to loosen, adding rotted hay if necessary
    b. grade and furrow the loose material
    c. seed the material to create the final phytoremediation cell

Proposed Monitoring

Post construction monitoring will be conducted as follows:

1. Within hours of completing construction, the soil flushing area and phytoremediation cell will be sampled by Hicks Consultants. Six locations to be selected after consultation with OCD in the flushing basins and four locations in the phytoremediation cell. This sampling event will provide the initial conditions to which we will compare subsequent results.
2. Depths of sampling are
    - 0-12 inches,
    - 12-24 inches,
    - Discrete samples at 36 and 48 inches,
    - Discrete samples at 60 and 72 inches for the flushing basins only
    - For the initial sampling event and annual events, samples will be obtained at the depths identified above and a laboratory will evaluate samples for chloride,
3. On a monthly basis, Clayton-Williams staff will inspect the berms that create the soil flushing area and the phytoremediation cell for any evidence of erosion and initiate repairs if necessary.
4. Four times per year, 2-3 weeks after visible ponding of stormwater in the basins, obtain 6 additional samples at locations determined by Clayton-Williams and OCD and use field techniques to evaluate the samples for chloride at the following depths
    - 0-12 inches
    - 12-24 inches
    - Discrete sample at 36 inches
5. Two times per year at the phytoremediation cell, obtain 4 additional samples at locations determined by Clayton-Williams and OCD and evaluate the samples for chloride and DRO+GRO at the following depths
    - 0-12 inches
    - 12-24 inches
    - Discrete sample at 36 inches
6. After each sampling event, provide sample results and photographic documentation of the conditions at the site (condition of berms, vegetative growth, and condition of drainage) to OCD and the SLO.

7. The program terminates when two post-construction monitoring events meet the following criteria
    - Average chloride is less than 800 mg/kg for the samples above 24-inches
    - Average chloride is less than 20,000 mg/kg for the samples 36 inches below grade
    - Average GRO+DRO in the phytoremediation cell is less than 500 mg/kg
    - Vegetation is re-established in the basins and the phytoremediation cell

After sampling shows compliance with the criteria of this plan, the culverts will be removed and the berms graded to allow the basins to blend with the surrounding area.

Vadose Zone Transport Model

If requested by OCD, we will provide an estimate of the migration of chloride to a water table groundwater zone. We will use HYDRUS-1D to simulate unsaturated zone chloride migration.

Schedule of Implementation

The area of the chloride flushing basins is now fenced to prevent intrusion of stock.

We are prepared to begin sampling, grading and construction of the remedy upon OCD approval.

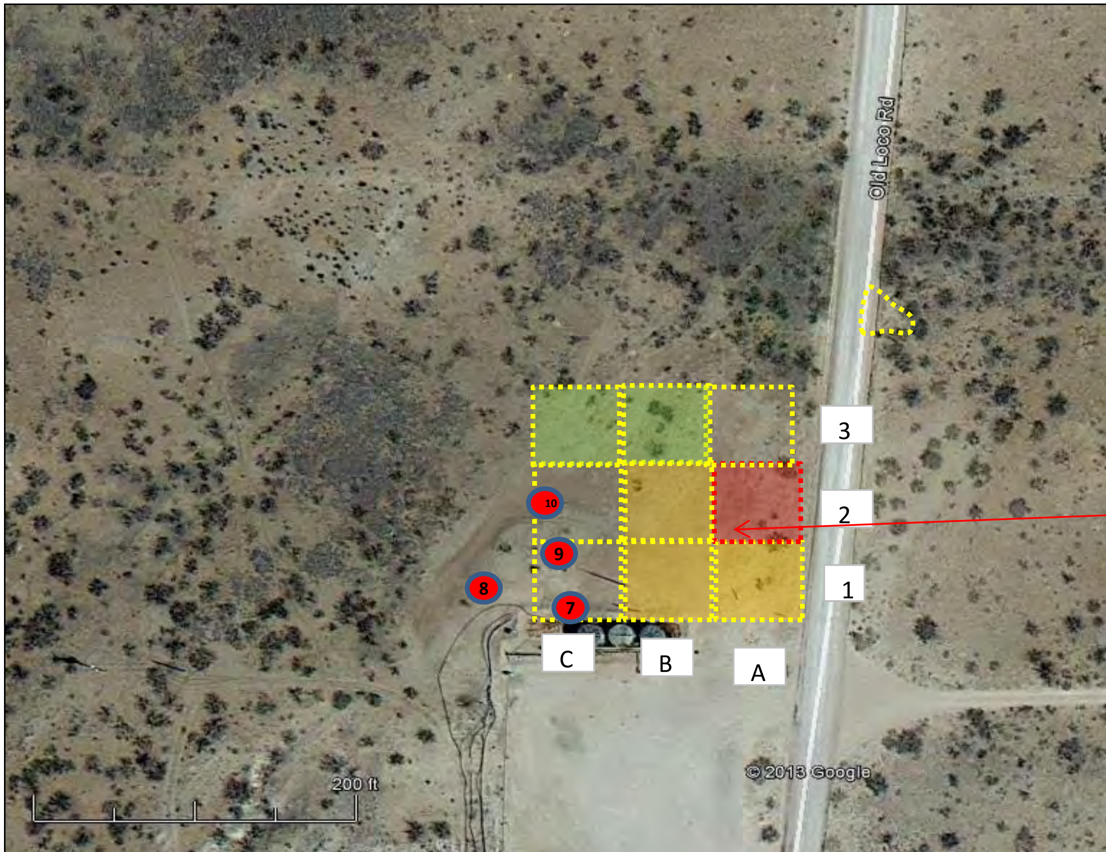
A meeting with OCD on-site may be appropriate as we can use the opportunity to show

- OCD how the basins would work
- Stake edges of each basin
- Establish the elevations of berms, culverts and the tilled surface
- Select the proposed sampling locations and
- Collect deep samples to establish initial conditions below the active (tilled) zone.

Please contact me if you have any questions relating to this proposal.

Sincerely,
R.T. Hicks Consultants, Ltd.

Randall T. Hicks
Principal

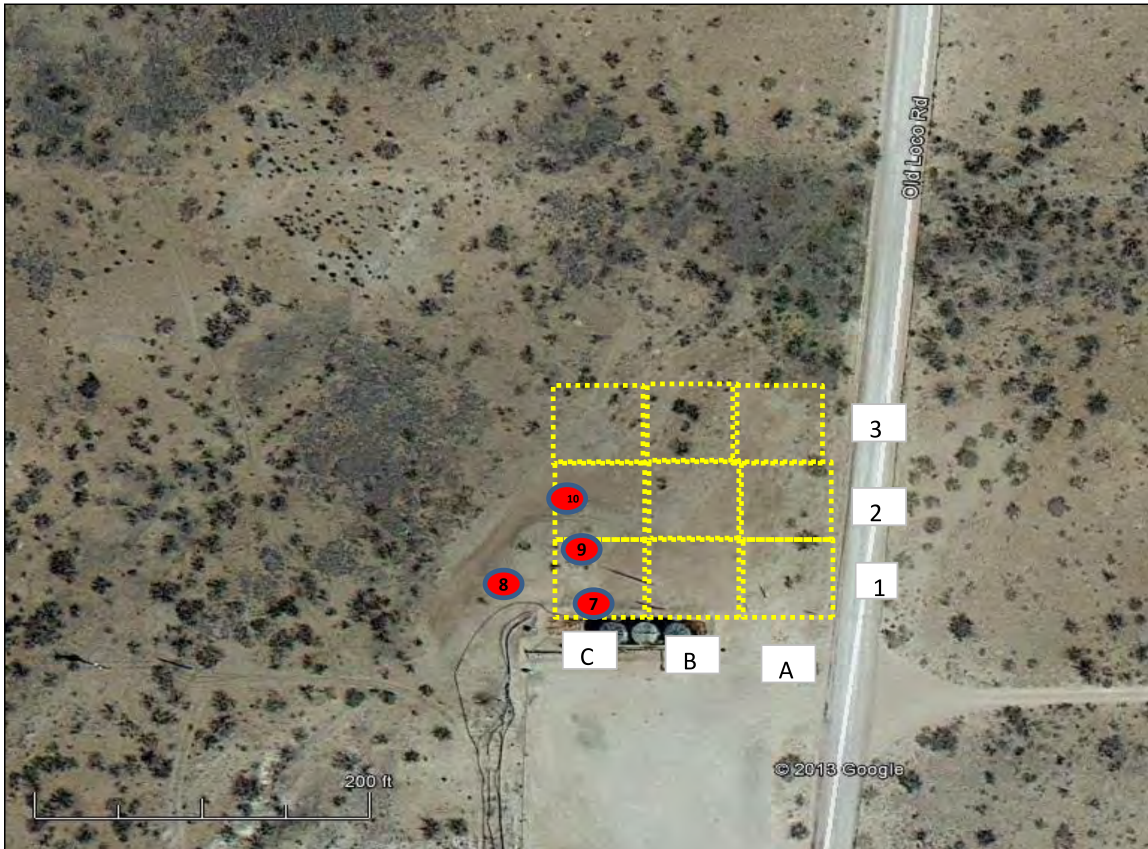


Excavated Soil from Spill Footprint - Results in mg/kg				
	Cl	DRO	EXT DRO	TPH
Top of Pile	3480	270	135	1610
Pile Bottom	2800	333	121	2300

Trench Results in mg/kg			
		depth (ft)	Cl - mg/kg
Trench 1	T-1	2	3800
	T-1	4	4760
	T-1	6	3160
	T-1	8	3560
	T-1	10	3080
	T-1	12	1890
Background Beneath On-Site Remediation of Pile			
Trench 2	T-2	2	432
		5	1940

Composite Grid Sampling Results of Excavated Surface						
	Cl		Cl		Cl	
C3	400	B3	304	A3	1280	mg/kg
C2	1680	B2	2600	A2	6480	mg/kg
C1	2440	B1	4680	A1	4240	mg/kg
East of Road			1500			

R.T. Hicks Consultants Albuquerque, NM	2013 Google Earth Image Showng Sampling Locations and Results from 2013 Sampling	Figure 1
	Clayton Williams - Jenna Com	Apr-16



2014 Sampling

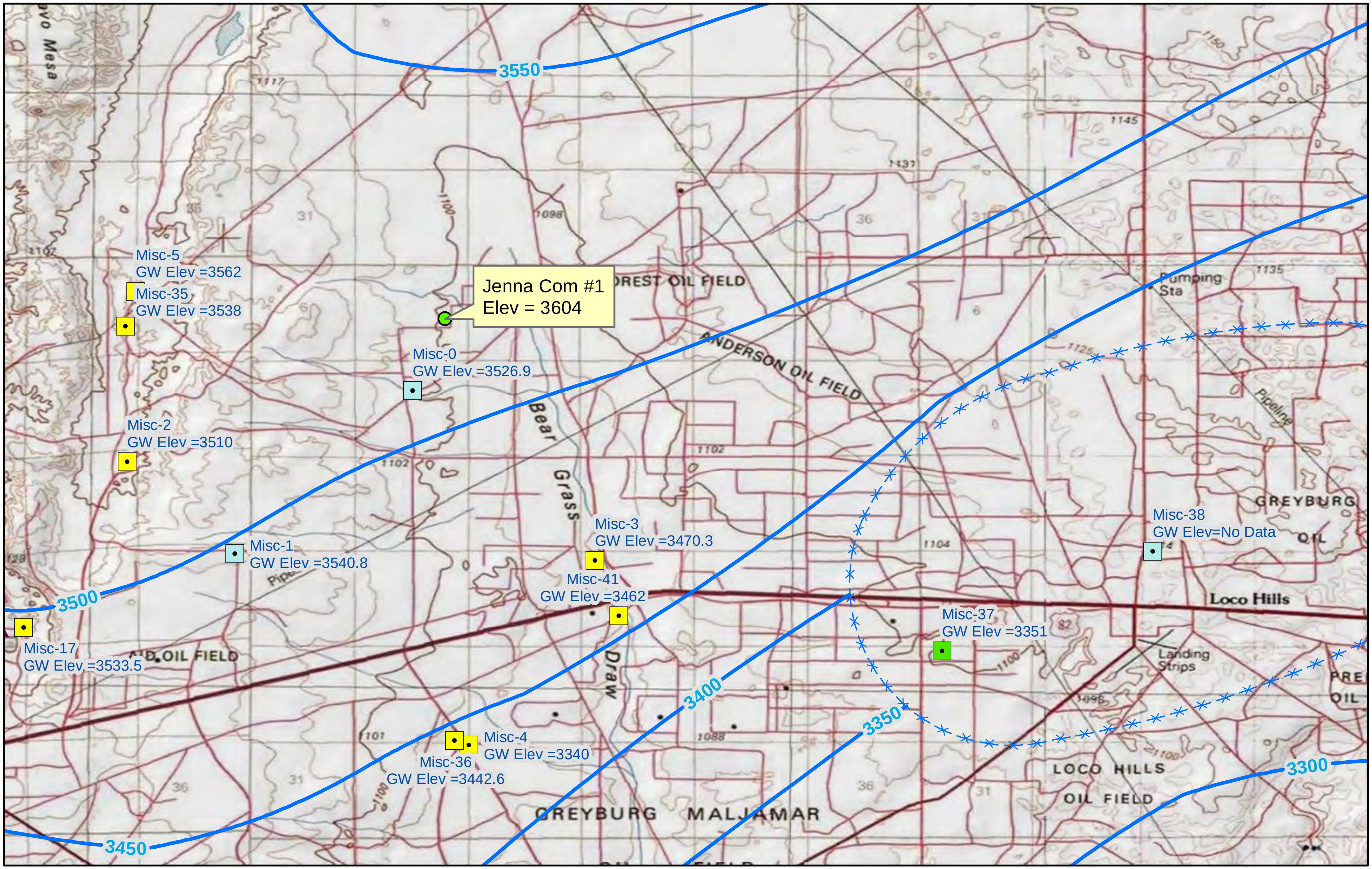
Location	Depth	Cl (mg/kg)
BH-7	2	12000
BH-7	4	7700
BH-7	6	8400
BH-7	8	5400
BH-7	10	5200
BH-7	12	3400
BH-8	2	3600
BH-8	4	1600
BH-8	6	550
BH-8	8	71
BH-8	10	92
BH-8	12	190
BH-9	2	2700
BH-9	4	2800
BH-9	6	1600
BH-9	8	1300
BH-9	10	290
BH-9	12	360
BH-10	2	3600
BH-10	4	2800
BH-10	6	3500
BH-10	8	2800
BH-10	10	1300
BH-10	12	780

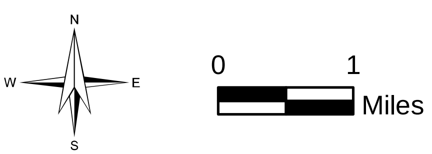
2016 Sampling

Grid	Depth (in)	Cl (ppm)
A-2	0-6	190
A-3	0-6	180
B-1	0-6	3900
B-3	0-6	ND
W of C-1	0-6	120

South Cell	Depth	Cl	DRO	MRO	TPH
Northwest	0-6	130	180	300	480
South	0-6	1600	300	700	1000
Middle	0-6	510	150	340	490
Average		747	210	447	657

R.T. Hicks Consultants **Albuquerque, NM**	**2013 Google Earth Image Showng Sampling Locations and Results from 2014 and 2016 Sampling**	**Figure 2**
	Clayton Williams - Jenna Com	**Apr-16**





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Groundwater Elevation

Southwest Royalties - Jenna Com #1

Figure 3

April 2016

N
W E
S

0 1,000 Feet

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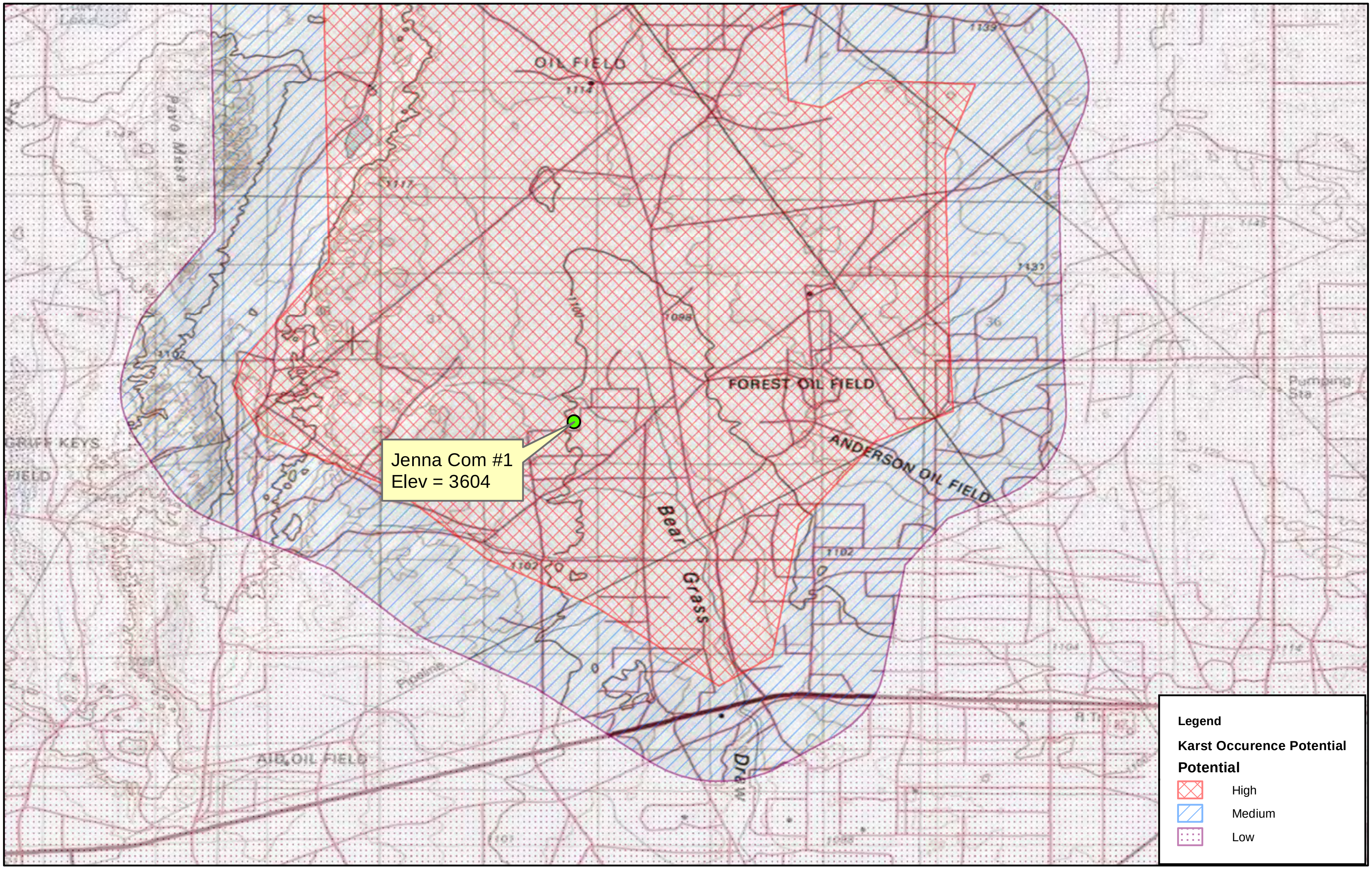
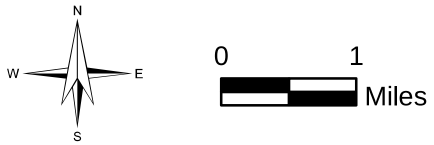
Nearby Surface Water	Figure 4
Southwest Royalties - Jenna Com #1	April 2016





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BLM Karst Potential Map

Figure 5

Southwest Royalties - Jenna Com #1

April 2016

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0 1,000
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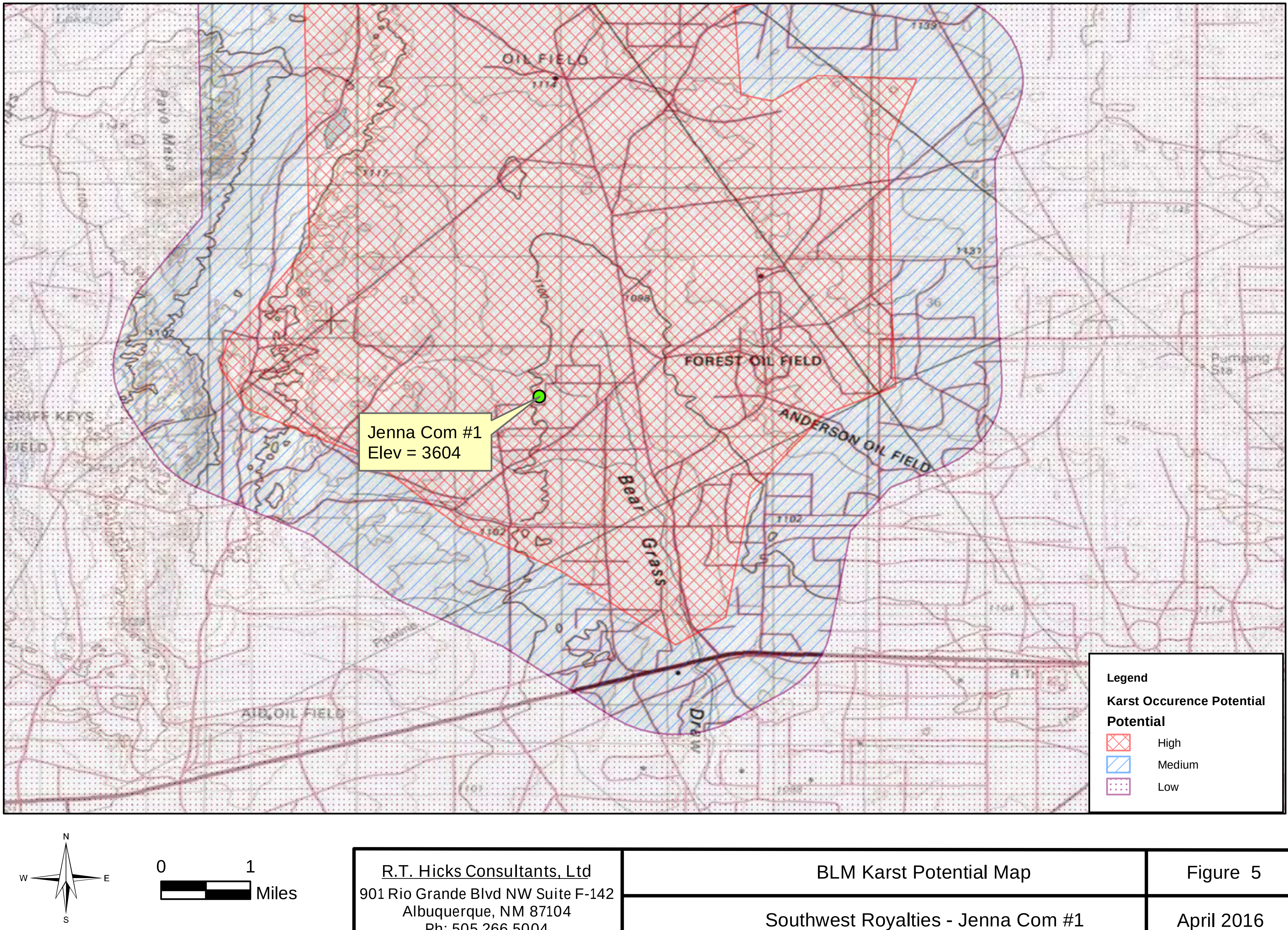
Nearby Surface Water

Southwest Royalties - Jenna Com #1

Figure 4

April 2016



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BLM Karst Potential Map

Figure 5

Southwest Royalties - Jenna Com #1

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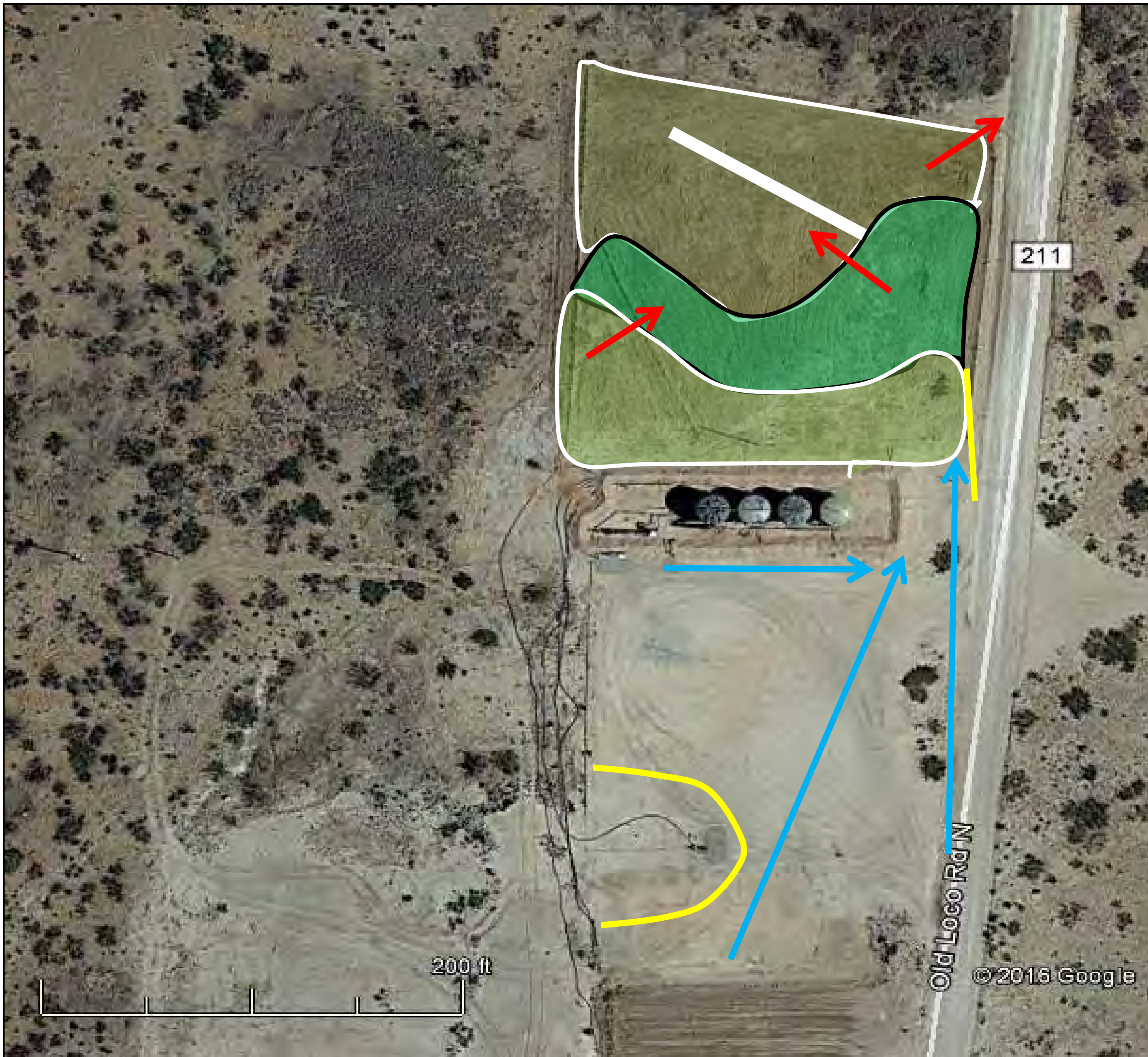

Berms of appropriate height to direct stormwater flow

Shallow swales of appropriate depth to divert stormwater flow

Two 12-inch culverts through berms to allow overflow of ponded stormwater

R.T. Hicks Consultants Albuquerque, NM	Proposed Chloride Flushing Remedy	Figure 6
	Southwest Royalties - Jenna	Apr-16