Bratcher, Mike, EMNRD

From: Tavarez, Ike [Ike.Tavarez@tetratech.com]
Sent: Wednesday, October 27, 2010 3:08 PM
To: Bratcher, Mike, EMNRD; Terry Gregston (terry_gregston@nm.blm.gov)
Subject: FW: COG - Skelly Unit #967 - Work Plan Approval Request
Attachments: COG -Skelly #967 Work Plan .pdf

Mike and Terry,

Here is the attachment (Work Plan). This was left out the previous email.

Ike Tavarez
Tetra Tech

From: Tavarez, Ike
Sent: Wednesday, October 27, 2010 10:10 AM
To: Mike Bratcher (mbratcher@state.nm.us); Terry Gregston (terry_gregston@nm.blm.gov)
Cc: Pat Ellis; Joshua Russo
Subject: COG - Skelly Unit #967 - Work Plan Approval Request

COG Operating
Skelly Unit #967
Section 15, T17S, R31E, Unit P
Eddy County, New Mexico
32.83073 103.85220

Mike and Terry,

Please find enclosed the Skelly #967 Work Plan located in Eddy County, New Mexico. Once approved, Tetra Tech will schedule the soil remediation and will notify you before we start. Please let me know if you need additional information or call me if you have any questions, thanks

Ike Tavarez, PG | Senior Project Manager

Main: 432.682 4559 | Fax: 432.682.3946 | Cell: 432.425.3878

Ike.Tavarez@tetratech.com

Tetra Tech | Complex World, Clear Solutions™

1910 North Big Spring | Midland, TX 79705 | www.tetratech.com

TETRA TECH

October 5, 2010

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
1301 West Grand Avenue
Artesia, New Mexico 88210

Re: Work Plan for the COG Operating LLC., Skelly Unit #967, Unit P, Section 15, Township 17 South, Range 31 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Skelly Unit #967, Unit P, Section 15, Township 17 South, Range 31 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.83073°, W 103.85220°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on December 31, 2009, and released approximately fifteen (15) barrels of oil and produced water from a leak in a 1" nipple on the pumping tee. To alleviate the problem, COG personnel repaired the leak. Ten (10) barrels of standing fluids were recovered. The majority of the spill remained on the caliche pad. The spill migrated west and impacted 15' by 35' area of pasture in a low lying area. COG initiated a surfical scrape of the location pad to remove the saturated material. The collected material was hauled away for disposal. The initial C-141 form is enclosed in Appendix C.

Tetra Tech
[illegible]
Tel [illegible] Fax [illegible]

Groundwater

No water wells were listed within Section 15. According to the NMOCD Eddy County groundwater map, the average depth to groundwater in this area is greater than 300' below surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On March 4, 2010, Tetra Tech personnel inspected and sampled the spill area. A total of five (5) auger holes (AH-1 through AH-5) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix B. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all the submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected and vertically defined to less than 200 mg/kg at depth for each auger hole with the exception of AH-5 (8,690 mg/kg at 6.5-7').

TETRA TECH

In order to vertically define the chloride concentrations for AH-5, Tetra Tech supervised the installation of a soil bore (SB-1) utilizing an air rotary drilling rig. Soil samples were collected down to a total depth of 20' bgs. Select samples were analyzed for chloride by EPA method 300.0.

Referring to Table 1, SB-1 (AH-5) shows a definitive decline in chloride concentrations from 15,100 mg/kg at 10' bgs to less than 200 mg/kg at 20' bgs.

Work Plan

Tetra Tech proposes to supervise the removal of impacted material as shown in attached Table 1 and Figure 4. Once the areas are excavated to the appropriate depths, the excavation will be backfilled with clean soil.

Since the impacted area is in the native sand dunes, the proposed excavation depths may not be reached due to wall cave ins, safety concerns for lines, equipment operators as well, as other onsite personnel. As such, Tetra Tech will excavate the soils to the maximum extent practicable. If the depths are not reached, a 40 mil liner will be installed at depth of 4' to 5' below surface to cap the impacted area. Upon completion a final report will be submitted to the NMOCD.

If you have any questions or require any additional information regarding this work plan proposal, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Kim Dorey
Staff Geologist

cc: Pat Ellis – COG
cc: Terry Gregston – BLM

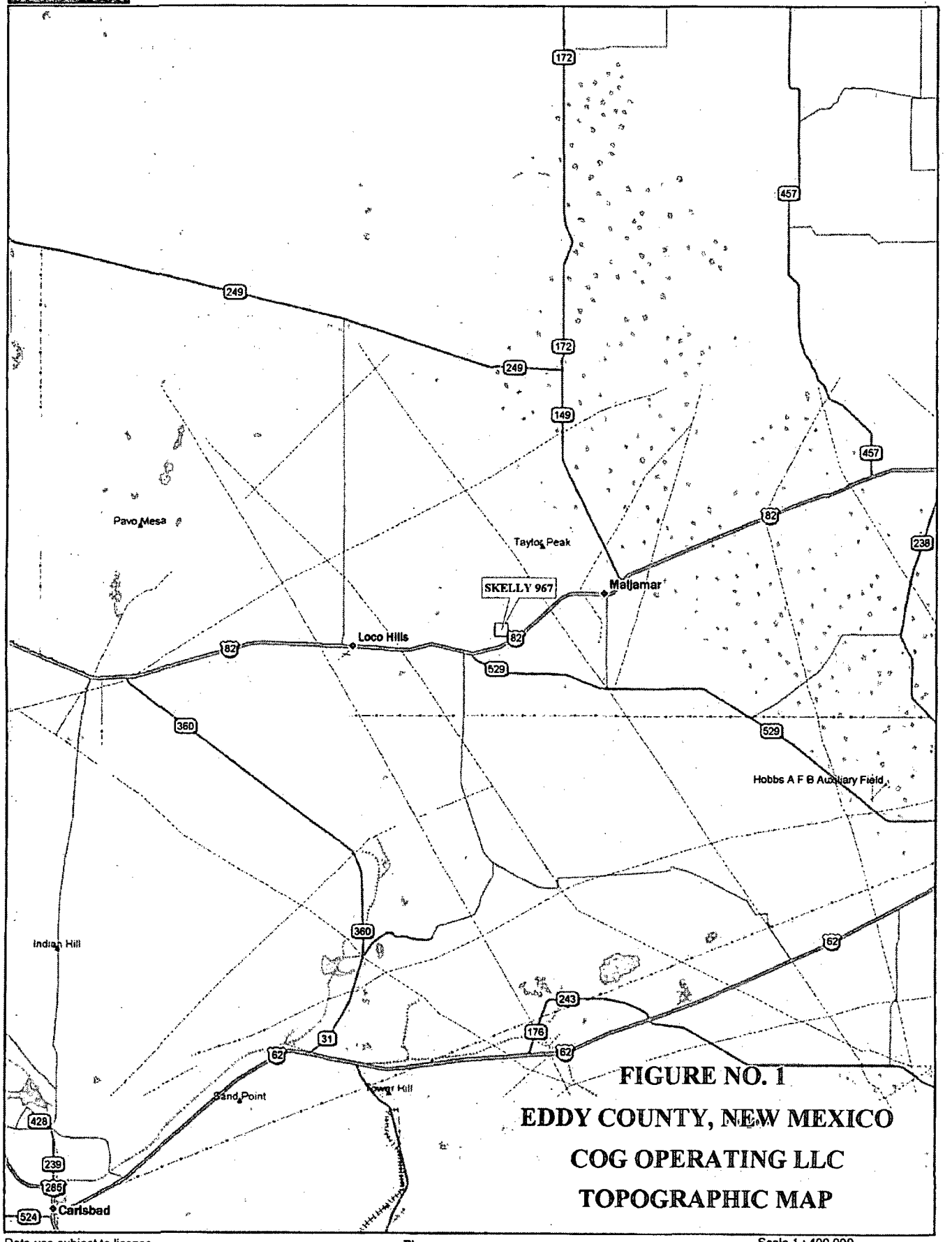


FIGURE NO. 1

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

TN
MN (7.9°E)

Scale 1 : 400,000

1" = 6.31 mi Data Zoom 9-0

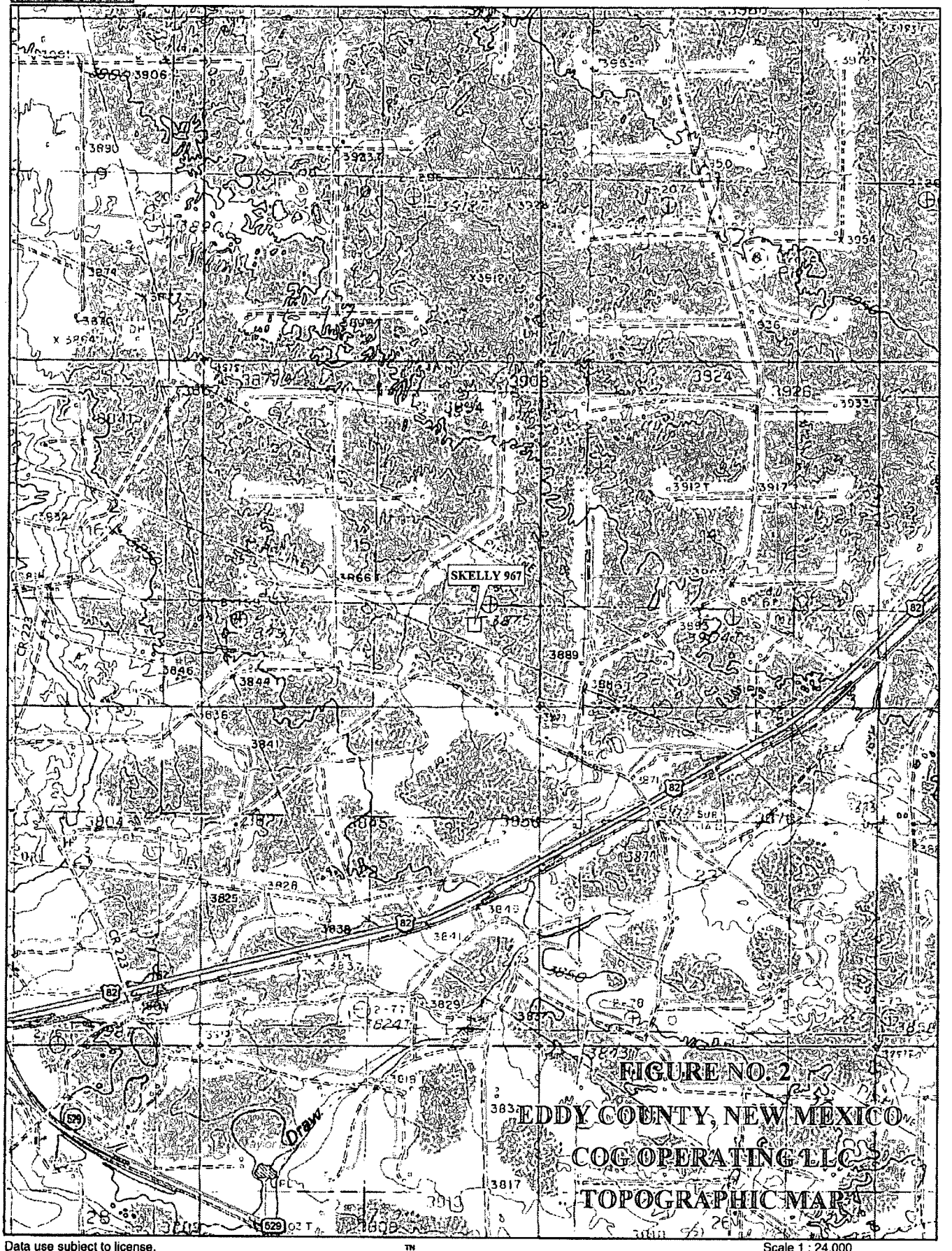


FIGURE NO. 2

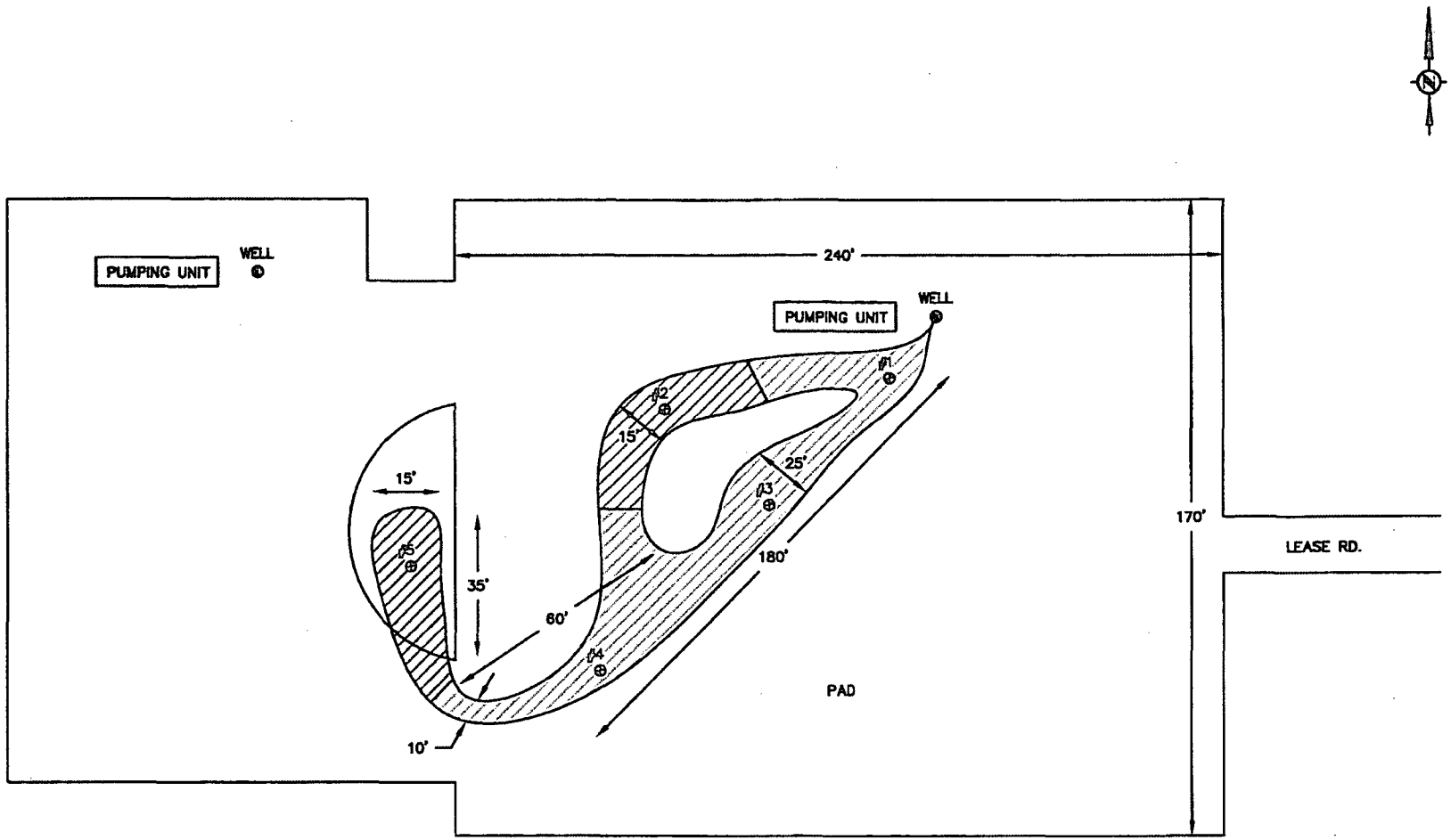
EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

TN
MN (7.6°E)

Scale 1 : 24,000
1" = 2,000.0 ft
Data Zoom 13-0



EXCAVATED AREA 1.0' DEEP
EXCAVATED AREA 6.0' DEEP
EXCAVATED AREA 10.0' DEEP
SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

SKELLY 967

DATE: 3/4/10
DSN. BY: JJ
FILE: M:\COG\84400438 SKELLY 967

TETRA TECH, INC.
MIDLAND, TEXAS

Table 1
COG Operating LLC.
Skelly 967
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-1	3/4/10	0-1'	X		<50.0	<1.00	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	4,220
		1-1.5'	X		–	–	–	–	–	–	–	<200
		2-2.5'	X		–	–	–	–	–	–	–	<200
AH-2	3/4/10	0-1'	X		71.6	4.9	76.5	<0.0100	<0.0100	<0.0100	<0.0100	3,580
		1-1.5'	X		–	–	–	–	–	–	–	490
		2-2.5'	X		–	–	–	–	–	–	–	<200
		3-3.5'	X		–	–	–	–	–	–	–	<200
		4-4.5'	X		–	–	–	–	–	–	–	3,160
		5-5.5'	X		–	–	–	–	–	–	–	4,150
		6-6.5'	X		–	–	–	–	–	–	–	4,400
		7-7.5'	X		–	–	–	–	–	–	–	304
		7.5-8'	X		–	–	–	–	–	–	–	<200
AH-3	3/4/10	0-1'	X		<50.0	<1.00	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	2,160
		1-1.5'	X		–	–	–	–	–	–	–	<200
		2-2.5'	X		–	–	–	–	–	–	–	<200
AH-4	3/4/10	0-1'	X		<50.0	<1.00	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	1,600
		1-1.5'	X		–	–	–	–	–	–	–	<200
		2-2.5'	X		–	–	–	–	–	–	–	666
		3-3.5'	X		–	–	–	–	–	–	–	1,070
		4-4.5'	X		–	–	–	–	–	–	–	<200
		5-5.5'	X		–	–	–	–	–	–	–	<200
		6-6.5'	X		–	–	–	–	–	–	–	<200

Table 1
COG Operating LLC.
Skelly 967
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-5	3/4/10	0-1'	X		1,930	308	2,238	<0.100	<0.100	<0.100	1.27	289
		1-1.5'	X		–	–	–	–	–	–	–	219
		2-2.5'	X		–	–	–	–	–	–	–	<200
		3-3.5'	X		–	–	–	–	–	–	–	<200
		4-4.5'	X		–	–	–	–	–	–	–	473
		5-5.5'	X		–	–	–	–	–	–	–	856
		6-6.5'	X		–	–	–	–	–	–	–	2,640
		6.5-7'	X		–	–	–	–	–	–	–	8,690
SB-1	4/12/10	8'	X		–	–	–	–	–	–	–	15,600
		10'	X		–	–	–	–	–	–	–	15,100
		15'	X		–	–	–	–	–	–	–	689
		20'	X		–	–	–	–	–	–	–	<200

BEB Below Excavation Bottom

(–) Not Analyzed

☐ Proposed excavation depths

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company COG OPERATING LLC	Contact Kanicia Carrillo
Address 550 W. Texas, Suite 100 Midland, TX 79701	Telephone No. 432-685-4332
Facility Name – Skelly Unit 967	Facility Type- Battery

Surface Owner Federal	Mineral Owner	Lease No.NMLC029420A/ 30-15-35871

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	15	17S	31E	1250	South	990	East	Eddy

Latitude___ Longitude

NATURE OF RELEASE

Type of Release- Oil & water	Volume of Release-15 bbls	Volume Recovered- 10
Source of Release- 1" nipple on pumping tee	Date and Hour of Occurrence- 12/31/09	Date and Hour of Discovery 12/31/09
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
There was a hole in the 1" nipple on the pumping tee.

Describe Area Affected and Cleanup Action Taken.*
The majority of the fluid remained on the pad. A little of the fluid ran off the west side of the pad covering a 10' x20' area of the pasture. We will scrape the pad and haul off contaminated soil and wait on approval to clean the pasture.
Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for your approval prior to any significant remediation work.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION Approved by District Supervisor:	
Printed Name: Kanicia Carrillo		
Title: Regulatory Analyst	Approval Date:	Expiration Date:
E-mail Address: kcarrillo@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 01/13/10 Phone: 432-685-4332		

* Attach Additional Sheets If Necessary

Water Well Data
Average Depth to Groundwater (ft)
COG - Skelly Unit #967
Eddy County, New Mexico

16 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 288
18	17	16	15	14	13 113
19	20	21	22	23	24
30	29	28	27	26	25
31 290	32	33	34	35	36

16 South 32 East

6	5	4	3 65	2 265	1 265
7	8	9	10	11	12 215
18	17	16 221	15	14	13 215
19 220	20	21 210	22	23 210	24
30	29	28	27	26 243	25
31	32	33	34	35	36 260

17 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

17 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15 SITE	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34 271	35	36

17 South 32 East

6	5	4 82	3 175	2 60	1 225
7	8	9	10	11 70 88	12
18	17	16	15	14	13
19	20	21	22	23	24
30 180 dry	29	28	27	26	25
31	32	33	34	35	36

18 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 400
18	17	16	15	14 317	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35 261	36

18 South 32 East

6	5	4 65	3	2	1
7 460 82	8	9	10	11	12
18	17	16 84	15	14	13
19	20 164	21	22 429	23	24
30	29	28	27	26	25
31	32	33	34 117	35	36

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Field water level
- New Mexico Water and Infrastructure Data System

Summary Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: March 15, 2010

Work Order: 10031003

Project Location: Lea County, NM
Project Name: COG/Skelly 967
Project Number: 114-6400436

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
224980	AH-1 0-1'	soil	2010-03-04	00:00	2010-03-09
224981	AH-1 1-1.5'	soil	2010-03-04	00:00	2010-03-09
224982	AH-1 2-2.5'	soil	2010-03-04	00:00	2010-03-09
224983	AH-2 0-1'	soil	2010-03-04	00:00	2010-03-09
224984	AH-2 1-1.5'	soil	2010-03-04	00:00	2010-03-09
224985	AH-2 2-2.5'	soil	2010-03-04	00:00	2010-03-09
224986	AH-2 3-3.5'	soil	2010-03-04	00:00	2010-03-09
224987	AH-2 4-4.5'	soil	2010-03-04	00:00	2010-03-09
224988	AH-2 5-5.5'	soil	2010-03-04	00:00	2010-03-09
224989	AH-2 6-6.5'	soil	2010-03-04	00:00	2010-03-09
224990	AH-2 7-7.5'	soil	2010-03-04	00:00	2010-03-09
224991	AH-2 7.5-8'	soil	2010-03-04	00:00	2010-03-09
224992	AH-3 0-1'	soil	2010-03-04	00:00	2010-03-09
224993	AH-3 1-1.5'	soil	2010-03-04	00:00	2010-03-09
224994	AH-3 2-2.5'	soil	2010-03-04	00:00	2010-03-09
224995	AH-4 0-1'	soil	2010-03-04	00:00	2010-03-09
224996	AH-4 1-1.5'	soil	2010-03-04	00:00	2010-03-09
224997	AH-4 2-2.5'	soil	2010-03-04	00:00	2010-03-09
224998	AH-4 3-3.5'	soil	2010-03-04	00:00	2010-03-09
224999	AH-4 4-4.5'	soil	2010-03-04	00:00	2010-03-09
225000	AH-4 5-5.5'	soil	2010-03-04	00:00	2010-03-09
225001	AH-4 6-6.5'	soil	2010-03-04	00:00	2010-03-09
225002	AH-5 0-1'	soil	2010-03-04	00:00	2010-03-09
225003	AH-5 1-1.5'	soil	2010-03-04	00:00	2010-03-09
225004	AH-5 2-2.5'	soil	2010-03-04	00:00	2010-03-09
225005	AH-5 3-3.5'	soil	2010-03-04	00:00	2010-03-09
225006	AH-5 4-4.5'	soil	2010-03-04	00:00	2010-03-09
225007	AH-5 5-5.5'	soil	2010-03-04	00:00	2010-03-09
225008	AH-5 6-6.5'	soil	2010-03-04	00:00	2010-03-09
225009	AH-5 6.5-7'	soil	2010-03-04	00:00	2010-03-09

Sample - Field Code	BTEX Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
224980 - AH-1 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
224983 - AH-2 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	**71.6**	**4.89**
224992 - AH-3 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
224995 - AH-4 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
225002 - AH-5 0-1'	<0.100	<0.100	<0.100	**1.27**	**1930**	**308**

Sample: 224980 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**4220**	mg/Kg	4.00

Sample: 224981 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 224982 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 224983 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**3580**	mg/Kg	4.00

Sample: 224984 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**490**	mg/Kg	4.00

Sample: 224985 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 224986 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 224987 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**3160**	mg/Kg	4.00

Sample: 224988 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**4150**	mg/Kg	4.00

Sample: 224989 - AH-2 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**4400**	mg/Kg	4.00

Sample: 224990 - AH-2 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**304**	mg/Kg	4.00

Sample: 224991 - AH-2 7.5-8'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 224992 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**2160**	mg/Kg	4.00

Sample: 224993 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 224994 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 224995 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**1600**	mg/Kg	4.00

Sample: 224996 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 224997 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**666**	mg/Kg	4.00

Sample: 224998 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**1070**	mg/Kg	4.00

Sample: 224999 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225000 - AH-4 5-5.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225001 - AH-4 6-6.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225002 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**289**	mg/Kg	4.00

Sample: 225003 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**219**	mg/Kg	4.00

Sample: 225004 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225005 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225006 - AH-5 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**473**	mg/Kg	4.00

Sample: 225007 - AH-5 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**856**	mg/Kg	4.00

Sample: 225008 - AH-5 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**2640**	mg/Kg	4.00

Sample: 225009 - AH-5 6.5-7'

Param	Flag	Result	Units	RL
Chloride		**8690**	mg/Kg	4.00

Summary Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: April 21, 2010

Work Order: 10041412

Project Location: Lea County, NM
Project Name: COG/Skelly 967
Project Number: 114-6400436

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
228497	SB-1 8'	soil	2010-04-12	00:00	2010-04-13
228498	SB-1 10'	soil	2010-04-12	00:00	2010-04-13
228499	SB-1 15'	soil	2010-04-12	00:00	2010-04-13
228500	SB-1 20'	soil	2010-04-12	00:00	2010-04-13

Sample: 228497 - SB-1 8'

Param	Flag	Result	Units	RL
Chloride		**15600**	mg/Kg	4.00

Sample: 228498 - SB-1 10'

Param	Flag	Result	Units	RL
Chloride		**15100**	mg/Kg	4.00

Sample: 228499 - SB-1 15'

Param	Flag	Result	Units	RL
Chloride		**689**	mg/Kg	4.00

Sample: 228500 - SB-1 20'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00