GeoScience Analytical Inc.

"established March 1981"

4454 INDUSTRIAL ST. SIMI VALLEY, CA 93063 (805) 526-6532 FAX 526-3570 Email GEOSCI10@aol.com

28 October 1997

Mr. Doug Off
Ojai Oil Co.
2161 Ventura Blvd.
Oxnard, CA

RE: Removal of Sump Material - Upper Ojai

Dear Mr. Off:

This letter report shall serve as a summary of our consulting services related to the above referenced project.

Ojai Oil Company maintains producing oil wells and associated facilities at 12761 Ojai Road. Among those facilities was a sump that had historically been used as repository for waste crude oil. As part of field restoration efforts, Ojai Oil Company elected to remove the contents of the sump and back fill with clean soil. GeoScience Analytical, Inc. (GSA) was retained to find a suitable company to remove the material, observe the removal operations and provide soil testing.

The material in the sump, a biodegraded, highly weathered, oily residue of tar like consistency mixed with soil, vegetation (primarily leaves) and other miscellaneous debris, was sampled and tested in December 1995 for heavy metals and Total Petroleum Hydrocarbons (Tables 1, 2, Appendix I). Based on these tests, the material was deemed nonhazardous for purposes of waste disposal.

On July 2, 1997 personnel from GSA visited the site and observed the sump limits at approximately 25' x 120' surrounded by chain link fencing. Concrete was visible on the four (4) sides of the sump. The lease superintendent reported that the sump was approximately three (3') deep with a wire mesh reinforced concrete cap about one (1') foot beneath the surface. The material in the sump appeared to be a viscous tar-like oil. It was reported to have solidified during colder climatic periods.

Soil gas probes (4' deep) were advanced along the perimeter of the sump. Along the south side of the sump, probes did not reveal the presence of combustible gas above background (<1.0% LEL). A soil probe to the east of the sump

found a level of 100% LEL methane in soil gas at at depth of four (4') feet (Figure 1).

GSA identified three (3) firms capable of cleaning out the sump and backfilling it with clean soil. In consultation with the Client, PW Environmental, Inc. was selected based on cost and experience. The clean-up was to be performed by mixing imported soil with the oily material in a ratio of approximately 1:3, respectively, to improve its handling characteristics. The mixing was to take place in the sump as material was removed. The removed material was to be stockpiled on plastic sheeting until the sump was removed at which time the excavated material would be transported to a proper disposal site. The concrete was to be removed at any convenient time during the excavation for final transport to a recycling facility.

Excavation of the sump began September 11, 1997. The sump material was wetter than anticipated where perched water was encountered. Grading operations were performed to facilitate drainage. Removed material was stored on plastic sheeting placed over flat ground.

By September 16 approximately 85' of the sump had been excavated, starting at the east end. The depth of the north side of the pit was three (3) feet. On the south side, excavation advanced as deep as 4 1/2' in one section located about 60' from the east end. The side walls were typified by clean soil over layers of black stained soil with tarry material oozing out of the sides at isolated locations. The soil left in the bottom of the pit was stained but all tarry material had been removed in the area excavated.

On September 17, 1997 qualitative testing of the bottom of the pit was carried out to determine the depth of clean soil. The removal of tarry material was not complete with about 28' of the pit remaining to be excavated. Testing was carried out by digging into the bottom of the pit until 5" of apparently unstained soil had been found. Samples were analyzed for Total Recoverable Petroleum Hydrocarbons (TRPH). If there was appreciable hydrocarbon concentration, the depth of the excavation was increased by one (1) foot and the concentration remeasured. The central portion of the excavation contained uncontaminated soil at a depth of 5' to 6' (<1,000 ppm TRPH) but the eastern end contained TRPH >50,000 ppm at a depth of 7' at which point excavation was halted (Figure 2). One sidewall sample contained <1,000 ppm TRPH, however additional samples were not taken since further excavation was planned for the sidewalls.

On September 22 the excavation of the sump was nearly complete. The concrete was removed and stockpiled. Only tarry material was to be removed, leaving stained material. In addition, the excavation was extended to the east because of the depth of stained soil at the east end (>7'). Only viscous oily material was removed. Stained soil was left in place. The amount of removed material

in the site slated for hauling totalled approximately 600 cu. yds.

On September 23, rocks recovered from the east and southeast portion of the excavation were used to fill in the west end of the pit to within 15" of grade. Some viscous material was left in place. Viscous material was apparent at the east beyond the sump as rocks were removed to fill in the west end.

On September 24, about 80' of the pit was filled with rock to within one (1') foot of grade. Excavation took place at the east end of the sump outside the original boundary. Some imported soil was placed at the center of the extended excavation.

On September 26, excavation to 10' below grade in the area of the previous 7' excavation failed to reach visually clean soil. The south berm was pulled into the pit and the eastern end of the pit, previously used as a ramp, was excavated with the most heavily contaminated material transported to the disposal site. The other visually cleaner material went into a second pile proposed for road cover following land farming. Soil disturbance continued 50' east beyond the original sump boundary.

On September 29, clean fill was used to cover over the rocks that had been used to fill the excavation. Wheel rolling and watering compacted the soil. Excavation was completed with the scope of the project being significantly increased (Figure 3).

On October 1, filling operations in the excavation area were complete. The area over the extraction was graded to slope southerly and covered with clean soil. The depth of the fill soil ranged from 12" to 18". The natural drainage channel in this area is to the south of the excavated and backfilled pit. The stockpiled concrete was removed and excavated soil, with the exception of one (1) pile which will be landfarmed and used for road cover on site, was removed.

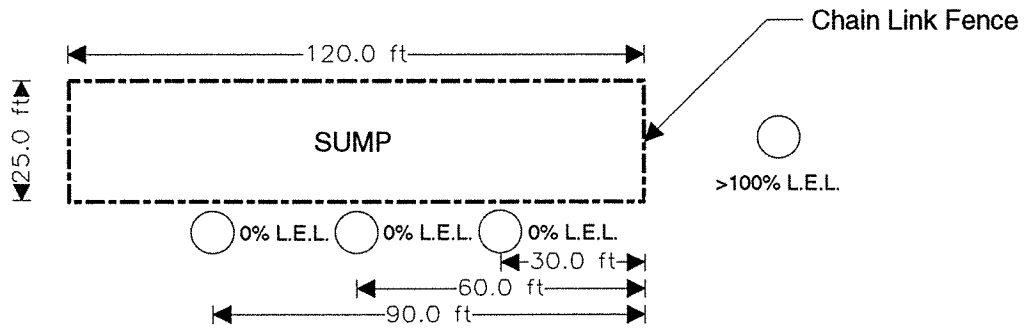
Nonhazardous viscous tarry material has been removed from a sump about 25' wide by 120' long and an extended area to its east (Figure 3). Stained soils on the sides and bottom of the sump, as well as in the area to the east of the sump, were not removed Clean soils were encountered at a depth of 5' in the central and western portions of the sump. The extent of stained soils in the sidewalls and at the eastern end of the pit is not known. The pit is backfilled with rock covered by 1' to 1 1/2' of clean soil which slopes to the south. The natural water course in the area is to the south of the sump.

Based on the clean-up performed, no additional mitigation is recommended at this time.

Sincerely yours,

Fleet E. Rust, Ph.D.
Project Manager

FIGURE 1



LEGEND

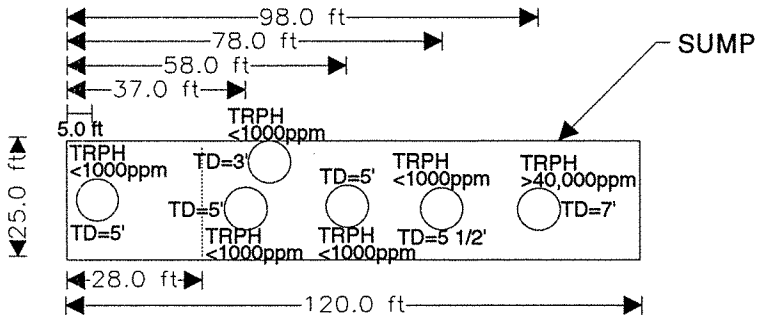
◯ Location of 4.0' Soil Probe

GEOSCIENCE ANALYTICAL, INC.
4454 Industrial Street
Simi Valley, CA 93063
TEL. (805) 526-6532 FAX: 526-3570

SHEET TITLE:	SUMP CLEAN-UP
PROJECT:	OJAI OIL CO. UPPER OJAI LEASE OJAI, CA

JOB NO.	1949
DWN. BY:	LJP
CHKD BY:	FER
DATE:	10/28/97
DWG. NO:	1

FIGURE 2



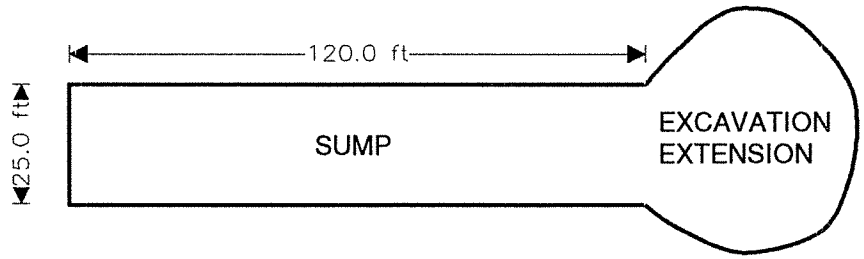
LEGEND

◯ Location of Soil Sample

N

GEOSCIENCE ANALYTICAL, INC. 4454 Industrial Street Simi Valley, CA 93063 TEL. (805) 526-6532 FAX: 526-3570	SHEET TITLE:	SUMP CLEAN-UP	JOB NO. 1949
	PROJECT:	OJAI OIL CO. UPPER OJAI LEASE OJAI, CA	DWN. BY: LJP CHKD BY: FER DATE: 10/28/97 DWG. NO: 3

FIGURE 3



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PROJECT:	OJAI OIL CO. UPPER OJAI LEASE OJAI, CA

JOB NO.	1949
DWN. BY:	LJP
CHKD BY:	FER
DATE:	10/28/97
DWG. NO:	2

APPENDIX I

ANALYTICAL DATA

Capco Analytical Services Incorporated (CAS)
1536 Eastman Avenue, Suite B
Ventura, CA. 93003
(805) 644-1095

Prepared For: Ventura Petroleum Service
P.O. Box 6812
Ventura, CA 93006

December 11, 1995

ATTENTION: Joe C.

Laboratory No: 951671
Date Received: 01-DEC-95
Project: Upper Ojai Oil

Job No: B02115
Sampled By: Client
Sample ID: See Below

RESULTS

On December 1, 1995, one (1) sample was received for analysis by Capco Analytical Services Inc. The sample was identified and assigned the lab numbers listed below. This report consists of 4 pages excluding the cover letter, and the Chain of Custody.

SAMPLE DESCRIPTION	CAS LAB NUMBER
Oil Residue	95167101

Dan Farah

Dan A. Farah, Ph.D
Director - Analytical Operations

CAPCO Analytical Services, Inc.

JAN 1 2 1996

Capco Analytical Services INC. (CAS)
1536 Eastman Avenue, Suite B
Ventura CA 93003
(805) 644-1095

Client: Ventura Petroleum
Sample ID: Oil Residue
Date Received: 12/01/95
Date Sampled: 12/01/95

Sample Matrix: Solid
CAS LAB NO: 95167101
Date Analyzed: 12/06/95

CAM 17 METALS ANALYSIS

METALS	TTLC (mg/Kg)	TTLC PQL (mg/Kg)	STLC (mg/L)	STLC PQL (mg/L)	CAM LIMITS TTLC (mg/Kg)	CAM LIMITS STLC (mg/L)	EPA METHOD
Antimony	BQL	8			500	15	6010
Arsenic	BQL	0.5			500	5	7060
Barium	130	10			10000	100	6010
Beryllium	BQL	0.3			75	0.75	6010
Cadmium	BQL	0.4			100	1	6010
Chromium	BQL	9			2500	560	6010
Cobalt	BQL	10			8000	80	6010
Copper	BQL	10			2500	25	6010
Lead	1.0	0.6			1000	5	7421
Mercury	BQL	0.04			20	0.2	7470
Molybdenum	BQL	20			3500	350	6010
Nickel	95	10			2000	20	6010
Selenium	BQL	0.5			100	1	7740
Silver	BQL	2			500	5	6010
Thallium	BQL	1			700	7	7841
Vanadium	90	7			2400	24	6010
Zinc	16	10			5000	250	6010

BQL: Below Practical Quantitation Limit
PQL: Practical Quantitation Limit

Principal Analyst

Capco Analytical Services INC. (CAS)
1536 Eastman Avenue, Suite B
Ventura CA 93003
(805) 644-1095

Client: Ventura Petroleum
Sample ID: Method Blank
CAS LAB NO: 951671-MB

Sample Matrix: Solid
Analyst: Shirin
Date Analyzed: 12/ 6/95

CAM 17 METALS - METHOD BLANK ANALYSIS

METALS	TTLC (mg/Kg)	TTLC PQL (mg/Kg)	STLC (mg/L)	STLC PQL (mg/L)	CAM LIMITS TTLC (mg/Kg)	CAM LIMITS STLC (mg/L)	EPA METHOD
Antimony	BQL	8			500	15	6010
Arsenic	BQL	0.5			500	5	7060
Barium	BQL	10			10000	100	6010
Beryllium	BQL	0.3			75	0.75	6010
Cadmium	BQL	0.4			100	1	6010
Chromium	BQL	9			2500	560	6010
Cobalt	BQL	10			8000	80	6010
Copper	BQL	10			2500	25	6010
Lead	BQL	0.6			1000	5	7421
Mercury	BQL	0.04			20	0.2	7470
Molybdenum	BQL	20			3500	350	6010
Nickel	BQL	10			2000	20	6010
Selenium	BQL	0.5			100	1	7740
Silver	BQL	2			500	5	6010
Thallium	BQL	1			700	7	7841
Vanadium	BQL	7			2400	24	6010
Zinc	BQL	10			5000	250	6010

BQL: Below Practical Quantitation Limit
PQL: Practical Quantitation Limit

Principal Analyst

CAPCO Analytical Services, Inc.

Capco Analytical Services INC. (CAS)
1536 Eastman Avenue, Suite B
Ventura CA 93003
(805) 644-1095

Client: Ventura Petroleum — CAS LAB NO: 951671-MB
Sample ID: Method Blank — Sample Matrix: MB for Solid

WET CHEMISTRY BLANK ANALYSIS SUMMARY

COMPOUND	RESULT	UNITS	DF	PQL	METHOD	ANALYZED
Cr+6	BQL	mg/Kg	1.00	10	7196	12/01/95
TRPH	BQL	mg/Kg	1.00	10	418.1m	12/05/95

TRPH: Total Recoverable Petroleum Hydrocarbons
Cr+6: Hexavalent Chromium

PQL: Practical Quantitation Limit
BQL: Below Practical Quantitation Limit

Diana Klionsky
Principal Analyst

Capco Analytical Services INC. (CAS)
1536 Eastman Avenue, Suite B
Ventura CA 93003
(805) 644-1095

Client: Ventura Petroleum
Sample ID: Oil Residue
Date Received: 12/01/95
Date Sampled: 12/01/95

Sample Matrix: Solid
CAS LAB NO: 95167101
Date Extracted: N/A
Time Sampled: 1200

WET CHEMISTRY ANALYSIS SUMMARY

COMPOUND	RESULT	UNITS	DF	PQL	METHOD	ANALYZED
Cr+6	BQL	mg/Kg	1.00	10	7196	12/01/95
TRPH	430000	mg/Kg	1500	20000	418.1m	12/05/95

TRPH: Total Recoverable Petroleum Hydrocarbons
Cr+6: Hexavalent Chromium

PQL: Practical Quantitation Limit
PQL: Below Practical Quantitation Limit

Diana Klionsky
Principal Analyst

CAPCO Analytical Services, Inc.